DOCUMENT RESUME

ED 419 994 CE 076 709

AUTHOR	Hager, Paul; McIntyre, John; Moy, Janelle; Comyn, Paul; Stone, Jacqui; Schwenke, Cristina; Gonczi, Andrew
TITLE	Workplace Keys. Piloting the Key Competencies in Workplace Training.
INSTITUTION	Technology Univ.-Sydney, Broadway (Australia). Research Centre for Vocational Education and Training.
SPONS AGENCY	New South Wales Dept. of Training and Education Co-ordination, Darlinghurst (Australia).; Australian Dept. of Employment, Education and Training, Canberra.
ISBN	ISBN-1-86365-198-5
PUB DATE	1996-00-00
NOTE	252p.; Page 135 contains some filled-in type.
PUB TYPE	Reports - Research (143)
EDRS PRICE	MF01/PC11 Plus Postage.
DESCRIPTORS	Adult Education; Basic Skills; Case Studies; Competence; *Curriculum Development; Educational Research; Foreign Countries; *Inplant Programs; *Integrated Activities; *Job Skills; *On the Job Training; Postsecondary Education; Secondary Education; Vocational Education
IDENTIFIERS	Australia (New South Wales)

ABSTRACT

A project investigated the integration of key competencies into workplace training in Australia. Part 1 of the project researched the work of personnel engaged in on-the-job training (OJT) curriculum development in five industries to find out how key competencies were being incorporated into OJT curricula and to suggest models to guide this process. Part 2 used action research at 22 sites to test ways to incorporate key competencies into workplace training and develop models for incorporating them into OJT delivery, assessment, and reporting. Findings indicated a typical work activity is composed of both industry-specific work skills and several generic skills. In a holistic approach, the development of key competencies would be a process of the trainee acquiring more integrated combinations of competencies while moving from school into the workplace. Key competencies were not all equally applicable or relevant to all jobs. They needed to be made explicit in training activities. The variables in a training culture and context had a significant effect on the nature of teaching key competencies. Recommended approaches to training in key competencies stressed the importance of integrated, context-specific training for developing skills and expertise and used key competencies to link on- and off-the-job training. The project identified a need for research to further understanding of key competencies in workplace training. (Appendixes include 60 references, project information papers, exemplars from curriculum case studies, and 22 case studies.) (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 419 994

UTS

Workplace Keys

Piloting the key competencies in workplace training

Paul Hager
John McIntyre
Janelle Moy
Paul Comyn
Jacqui Stone
Cristina Schwenke
Andrew Gonczi

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

DTEC

NSW Department of Training and Education Co-ordination

Research Centre for Vocational Education and Training

CE076709

The UTS *Research Centre for Vocational Education and Training* was engaged by the NSW Department of Training and Education Coordination (DTEC) to complete this research as part of a Commonwealth-funded key competencies project.

© 1996 New South Wales Department of Training and Education Co-ordination
Commonwealth Department of Employment, Education and Training

ISBN 1 86365 198 5

Copies available from:

Research Centre for Vocational Education and Training
University of Technology, Sydney
PO Box 123
BROADWAY NSW 2007

Tel: (02) 330-3700
Fax: (02) 330-3737
e-mail: rc.vet@uts.edu.au

Workplace Keys

Piloting the key competencies in workplace training

Paul Hager
John McIntyre
Janelle Moy
Paul Comyn
Jacqui Stone
Cristina Schwenke
Andrew Gonczi

A research project conducted by the

Research Centre for Vocational Education and Training
University of Technology, Sydney

and supported by the

Department of Training and Education Co-ordination
New South Wales

The UTS *Research Centre for Vocational Education and Training* was engaged by the NSW Department of Training and Education Coordination (DTEC) to complete this research as part of a Commonwealth-funded key competencies project.

© 1996 New South Wales Department of Training and Education Co-ordination
Commonwealth Department of Employment, Education and Training

ISBN 1 86365 198 5

Copies available from:

Research Centre for Vocational Education and Training
University of Technology, Sydney
PO Box 123
BROADWAY NSW 2007

Tel: (02) 330-3700
Fax: (02) 330-3737
e-mail: rc.vet@uts.edu.au

First printing: April 1996
Second printing: June 1996

Acknowledgments

Thanks are due to the following individuals who assisted the research team in their development and piloting of workplace training approaches and their review of curriculum materials:

Graham Barnes
Stephen Billett
Mark Bishop
Robyn Bishop
Robert Blandford
Richard Broughton
Ted Butler and staff
Sue Caires and staff
Brian Carling
Rosemary Caruana
Peter Casey
Keith Clark
Phil Cooke
Robert Corlet
Richard Culliford
Warren Daley
Walter de Jong
Paul Dirou
Judy Duffy
Natalie Egan
Irene Flatz
John Franks
Herb Gardener & Staff
Ralph Gatt
Matthew Gehan
Samir Ishak & staff
Maureen Harding
Jenny Henderson
Megan Herwig
Joyce Hitchen
Jo Lander
Steve Lawrence
Paul Lee
Penny Little
Diane Lock and staff
Alec McFarlane
Debbie McGlyn
Robert Mura
Tony Powell and staff
Bernard O'Donnell
Don Quinn
Richard Ransom
Tania Ridley
Steve Sanders
Colin Scott
Carol Shaw
Larry Smith
Michael Stamm
Sonia Stanley
Joy Snape
Andrew Thomas
Sunil Vijayasekaran
Michael Wiseman
Mark Wrice
Michael Zagros
Peter Zuchos

The provision of contacts by Bradfield College, Tourism Training (NSW) and the Professional Hairdressers Association (NSW) was much appreciated.

Many thanks also to Maree Joulian for her critical administrative support.

Contents

Page

Executive Summary i

1. Introduction 1

1.1 The Context 1

1.2 The Task 5

1.3 Definitions 5

1.4 The Current Status of Knowledge and Research on Key Competencies 6

The challenge of the key competencies 6

Key Competencies in Industry Standards: The National Training Board Model 8

Vocational expertise and the key competencies 10

The Stevenson Model: Adaptability and vocational expertise 12

The Petra Project 13

Teaching and learning the key competencies 15

1.5 Our Approach 16

Introduction 16

Part 1 17

Part 2 18

Issues and constraints in undertaking the research 20

2 Curriculum Issues 23

2.1 Overview 23

2.2 Emerging Issues 24

2.3 Case Studies of Workplace Curriculum 27

Service Station Operations Traineeship 28

Concrete Production Certificate 31

Local Government Workplace Learning Modules 34

Certificate in Building and Construction - Civil Operation (Plant) 40

Timber Wholesaling Certificate 48

3	**Piloting Approaches for Incorporating Key Competencies in the Workplace: Results from Twenty Two Sites**	55
3.1	Introduction	55
3.2	Issues	55
3.3	Clerical and Administrative Skills	59
3.4	Information Technology Industry	65
3.5	Hairdressing Industry	68
3.6	Hospitality Industry	71
3.7	Metals Industry	77
4	**Implications of this Research Project**	81
4.1	Introduction	81
4.2	The nature of key competencies	81
4.3	Language, literacy and numeracy issues	84
4.4	The role of key competencies in training curricula	84
4.5	Factors affecting current workplace training for key competencies	85
4.6	Recommended approaches for training in the key competencies	86
4.7	Key competencies as a vehicle for learning	87
4.8	Professional development needs in relation to the key competencies	88
4.9	Assessing and reporting of key competencies	89
4.10	Implications for research on the key competencies	90
	References	91
	Appendices	
	Appendix 1: Project Information Papers	95
	Appendix 2: Exemplars from Curriculum Case Studies	101
	Appendix 3: Part 3 Case Studies: Piloting Key Competencies in 22 Workplaces	109

Executive summary

The changing demands of the modern workplace have increased the depth and breadth of skills required in employees. The development of vocational expertise can be impeded by restricting workplace training to specific work skills. Training in generic skills, or key competencies, in conjunction with specific skills, should therefore be considered as a way to overcome the narrow development of skills which are often a consequence of traditional competency-based approaches. Such a holistic, integrated approach to workplace training would encourage the acquisition of both work skills and vocational expertise.

1. The project

Workplace Keys reports on a research project which investigated the integration of key competencies into workplace training. The project was commissioned by the NSW Department of Training and Education Coordination (DTEC) and was funded by the Commonwealth Department of Employment, Education and Training (DEET) as part of the Key Competencies Program.

This project followed a number of previous research projects examining key competencies in the workplace in NSW. In particular, it aimed to extend the findings of a research team from the Research Centre for Vocational Education and Training at the University of Technology, Sydney (Gonczi *et al.*, 1995), which examined how key competencies are understood in different industries, and to what extent they are present in curriculum development and training practices in those industries. The development and assessment of key competencies in industry is a complex and under-researched field; the work of Gonczi *et al.* identified a series of strategies for facilitating trainees' acquisition of a wider range and depth of key competencies.

In *Workplace Keys*, two project aims were devised to address some of these strategies:

- to develop a series of models for incorporating the key competencies into on-the-job training curricula
- to develop a series of models for incorporating the key competencies into on-the-job delivery, assessment and reporting practices.

1.1 Incorporating key competencies into on-the-job training curricula

This part of the project researched the work of personnel engaged in on-the-job training curriculum development, in five different industries. The purpose of the study was to find out how the key competencies are currently being incorporated into on-the-job training curricula, and to suggest some models that might guide this process in the future.

The intended outcomes of this part of the project were:

- to present a report on the sustainability of the National Training Board (NTB) model for incorporating the key competencies into workplace training curricula
- to develop industry-specific models for incorporating key competencies into workplace training curricula
- to present a report in the curriculum development process, and in particular, how key competencies are incorporated into the vocational outcomes of each of the nominated courses
- to identify the professional development needs of workplace curriculum developers.

1.2 Incorporating key competencies into workplace training

This part of the project used action research processes at a number of sites across five different industries, to test different ways of incorporating key competencies into workplace training. The purpose of the study was to develop a series of models for incorporating key competencies into the delivery, assessment and reporting of on-the-job training.

The intended outcomes of this part of the project were:

- to develop industry-specific approaches to incorporating the key competencies into on-the-job training
- to document the research process, and in particular, the incorporation of key competencies into delivery, assessment and reporting
- to identify the professional development needs of workplace trainers and assessors within each of the nominated industries.

2. The issues

The following issues helped shape the parameters of this research project.

For key competencies to provide a significant and productive link between trainees' performance in both education and the workplace, some common ground must be found between the disparate approaches to teaching key competencies. The traditional differences between school education and vocational education and training need to be reconciled, so that key competency development is considered from the perspective of workplace learning, which has a stronger focus on authentic practice than traditional secondary-school teaching, which is more content-based.

The relevance and applicability of existing models in current literature and research on key competency development in the workplace needs to be re-examined. This requires further research into skill formation processes and acquiring expertise. In particular, there is some uncertainty about the importance of authentic, context-specific learning events, and how these events can be used successfully in vocational training.

3. The research findings and their implications

The findings of this research project elucidated and raised further questions about the following issues:

- the nature of key competencies
- language, literacy and numeracy issues in workplace training and their relationship to the key competencies
- the role of key competencies in training curricula
- factors affecting current workplace training in the key competencies
- professional development needs in relation to key competencies
- assessing and reporting of the key competencies
- the need for further research.

In summary, the project found that a typical work activity comprises both industry-specific work skills (elements of competence) and several generic skills (key competencies). Although this is the case, it was not well understood in the industries studied that work contexts integrate these different kinds of skills. If this understanding of key competencies were generally accepted, however, it could pave the way for a more holistic approach to workplace training. In a holistic approach, the development of key competencies could be

seen as a process of the trainee acquiring more and more integrated and fluidly deployed combinations of competencies, as they move from secondary school into the workplace environment. Such an approach would bridge the gap between school and vocational training, education and the workplace.

Key competencies are not all equally applicable or relevant to all jobs; certain competencies are more prominent in certain industries. It would be useful, therefore, to develop industry-specific versions of key competencies. Trying to contextualise a generic set of key competencies, by mapping each key competency onto industry-specific elements of competence, can cause undesirable atomistic and mechanistic approaches to key competency development. Industry-specific versions of key competencies would discourage this.

Establishing the presence of key competencies in industry competency standards helps to highlight, promote and assess the development of key competencies in the workplace. However, the research did not substantiate the assumption that if National Competency Standards embody the key competencies explicitly, then so will curriculum modules and workplace training, etc. There is a need, then, to make key competencies explicit in training activities, but without undermining holistic training situations.

The project confirmed the finding of Gonczi *et al.* that across all industries the variables in a training culture and context have a significant effect on the nature of teaching key competencies. The project recommends a number of approaches to training in key competencies, stressing the importance of integrated, context-specific training for developing skills and expertise, and of using key competencies to link on and off-the-job training. Trainers need to consider different methods of developing key competencies which maximise available, relevant learning opportunities.

Finally, the participants in the project agreed for the most part that key competencies shouldn't be assessed separately from vocational outcomes. Incorporating some kind of descriptive comment on the development of key competencies into existing reporting arrangements would both ensure integrated assessment, and help make trainers and employers more conscious of the importance of key competencies.

4. Future research

Workplace Keys identifies a need for research in the future to further our understanding of key competencies in workplace training, particularly as they apply to small and medium-sized enterprises.

Chapter One

1. Introduction

1.1. The Context

This project was undertaken during the second half of 1995 by a team of researchers from the Research Centre for Vocational Education and Training at the University of Technology, Sydney (UTS). The project is part of the Commonwealth funded Key Competencies Program, which is supporting the development, trialing and evaluation of the key competencies in Australian general education, vocational education and training systems. Each of the pilot projects aims to test the feasibility of the principles and recommendations which have emerged from a series of influential reports. Relevant aspects of the three reports are identified briefly below.

The Finn Committee report, *Young People's Participation in Post-Compulsory Education and Training* (1991), recommended that steps should be taken to ensure that all young people had the opportunity to develop employment-related key competency areas, regardless of education and training pathway followed. The key competency areas identified by the Finn Committee were Language and Communication, Mathematics, Scientific and Technological Understanding, Cultural Understanding, Problem Solving, and Personal and Interpersonal Characteristics.

The Carmichael Committee report, *The Australian Vocational Certificate Training System*, (Report of the Employment and Skills Formation Council National Board of Employment, Education and Training, 1991), proposed a new system of competency based entry level training. The key competencies provided a core component of the proposed system and a mechanism for improved links between general and vocational education and between education and work.

The Mayer Committee was established to undertake further development of the competencies identified by the Finn Committee. Adoption of a set of seven key competencies was proposed in *Putting General Education to Work: The Key Competencies Report* (1992). The seven key competencies were:

- Collecting, Analysing and Organising Information
- Communicating Ideas and Information
- Planning and Organising Activities
- Working with Others and in Teams

- Using Mathematical Ideas and Techniques
- Solving Problems
- Using Technology

In July 1993, Ministers of Education and Training agreed to amend the list of competencies proposed by the Mayer Committee. An eighth key competency, (Using) Cultural Understanding was added. The key competencies are defined as:

> *...competencies essential for effective participation in the emerging patterns of work and work organisation. They focus on the capacity to apply knowledge and skills in an integrated way in work situations. Key competencies are generic in that they apply to work generally rather than being specific to work in particular occupations or industries. This characteristic means that the key competencies are not only essential for effective participation in work but are also essential for effective participation in further education and in adult life more generally (p5).*

Further information on the key competencies is provided in Information Sheets 1 and 2, provided in Appendix 1.

Within each state and territory various authorities are undertaking pilot projects on the delivery, assessment and reporting of the key competencies. This project was commissioned by the Department of Training and Education Coordination (DTEC), which is the authority responsible for the on-the-job vocational training component of piloting in NSW.

This is not the first report which examines key competencies in the workplace in NSW. In April 1995 a research team from UTS (Gonczi et al, 1995) completed a study which examined understandings of the key competencies in five industries and the presence of the key competencies in curriculum documentation and training practices within those industries. The five industries were: Electrical, Hairdressing, Hospitality, Metals and Timber and Building Materials. The project report includes five industry case studies and 31 enterprise case studies. In addition to providing insights on actual workplace training practices the study was presented as '... the first stage in our understanding of how the key competencies can be developed in industry/training settings' (p35).

While there was generally a low level of understanding of the key competencies and the concepts and terminology of the Mayer Committee report amongst managers and trainers, those involved in the study generally supported the notion of generic skills. However, the study found that entry level training in industries with a customer service orientation appeared to provide opportunities for trainees to develop more of the key competencies

than other industries. The report also highlighted that the acquisition of competencies needed to be regarded as a developmental process throughout a traineeship or apprenticeship and beyond.

Although all trainees and apprentices who participated in the study possessed some of the key competencies (though rarely at high levels), there was virtually no evidence of explicit training activities used to develop the key competencies. Consequently, Gonczi et al questioned whether there was a need for additional formal training activity when aspects of the key competencies were embedded in existing training practices. However, the report also notes that, contrary to the views expressed by the Finn and Mayer Committees, not all key competencies were included in all apprenticeships and traineeships across the five industries.

Gonczi et al identified five interconnected variables which appear to have a significant impact on the nature of training for the key competencies, across and within industries. These factors are:

- the training culture in the industry: which is derived from the history and traditions of training within the enterprise and/or industry and influences commitment and attitudes to training. The training culture may also be influenced by factors such as customer service requirements, competitive pressures, quality initiatives, links between on- and off-the-job training, and industrial reform.
- the nature of work: which relates to the variety of tasks performed by the apprentice or trainee and the way that the tasks are organised and performed within and across industries;
- the size of the firm: the study found that planned, structured and consistent training was evident more frequently in large and medium-sized firms than small firms;
- the trainer's understanding of the learning/teaching process: the report suggests that atomistic approaches to competency based training and assessment '... will retard the development of the key competencies' (p23). The researchers also suggested that inadequate workplace trainer and assessor skills had resulted in a significant gap between the approaches used to develop generic competencies in the enterprises in the study and international best practice, as exemplified by the German Petra scheme (see Section 1.4. of this report); and
- the age, experience and capacity of the trainee or apprentice.

Noting that the development and assessment of key competencies in industry contexts is a complex and under-researched area, Gonczi et al identified a series of strategies for

facilitating the development of a wider range and depth of key competencies by trainees and apprentices. Those strategies are overviewed below.

- To address the low level of understanding of the key competencies in industry, the need to implement a medium to long-term communication and marketing strategy was identified.
- Curriculum strategies are required which focus on making the key competencies explicit in the training and assessment processes used by trainers, through the provision of a rationale for incorporating key competencies and the identification of principles for developing and integrating the key competencies into industry standards, curriculum, training strategies, assessment and reporting.
- The development of training and assessment approaches and materials which are facilitative and simple and cost effective are advocated. These resources would encourage trainees to negotiate, think, reflect and engage in self and peer assessment on the key competencies within the context of training in vocational competencies. Such approaches may include the use of diaries or journals, buddies or mentors, training sheets and other approaches which capture real work situations as training and assessment events.
- Related to the point above, the report recommends the development of a set of simple, short training resources for those with training roles which identify opportunities to develop the key competencies in the context of vocational competencies and also take account of the impact of factors such as enterprise size.
- Similarly, the report identifies the need to develop and deliver compulsory one or two day train the trainer courses in how to train in the key competencies, for all enterprises taking on trainees and apprentices. This approach is necessary to address the complexity of issues involving the development of the key competencies and to improve the quality of on-the-job training through the inclusion of approaches such as modelling, coaching and questioning techniques.
- The report also highlights the need for further research on the development of the key competencies through the effective integration of on- and off-the-job training and learning.

Gonczi et al note that their study has increased the level of understanding of the relationship between key competencies and on-the-job training, however, it also raises '...a number of large questions' (p35). Further qualitative case study research was recommended to test the findings of the study and advance understanding of both the nature of the key competencies and how they can be developed in industry. Consequently, the current project is closely related to, and extends on, the work of Gonczi et al.

1.2. The Task

This project comprised two parts. The aim of Part 1 of the project was to develop a series of models for incorporating the key competencies into on-the-job training curriculum. Intended outcomes of this part of the project are identified below:

- A report on the suitability of the National Training Board (NTB) model for incorporating the key competencies into work based training curriculum. [The report was not intended to be a formal evaluation but an indication of how useful this model may be as a starting point and how it may be improved.]
- Industry specific models for incorporating the key competencies into work based training curriculum.
- A report on the curriculum development process, and in particular, incorporating the key competencies within the vocational outcomes of each of the nominated courses.
- Identification of the professional development needs of work based curriculum developers.

The aim of Part 2 of the project was to develop a series of models for incorporating the key competencies into on-the-job delivery, assessment and reporting practices. Intended outcomes of Part 2 are identified below:

- Develop industry specific approaches for incorporating the key competencies into on-the-job training.
- Document the research process and, in particular, the incorporation of key competencies within learning events in on-the-job training.
- Report on incorporating the key competencies into delivery, assessment and reporting.
- Identify the professional development needs of workplace trainers and assessors within each of the nominated industry areas.

1.3 Definitions

Definitions and terms relating to on-the-job training are not necessarily used consistently within the vocational education and training sector or industry. The definitions which appear below have been applied in this research project. They have been adopted from two primary sources: Gonczi et al (1995) and NSW TAFE Commission (1995).

Explicit in training:

- There is documentation for the training and the key competency is spelt out as one of the training objectives.

Implicit in training:

- there is documentation for the training but the key competency is only taught indirectly as part of training to meet other objectives.
- there is no documentation for the training but it appears that the key competency is given definite emphasis in the formal on-the-job training.

On-the-job (training/assessment):

- occurs where structured training and/or assessment is undertaken in the workplace and uses actual jobs or service of productive value.

Off-the-job (training/assessment):

- is where structured training and/or assessment takes place away from the actual workplace situation - off the premises (off-the-job, off-site), or on the work premises in an area specifically equipped for training purposes (off-the-job, on-site).

On-site (training/assessment):

- is where structured training and/or assessment occurs on the work premises and could be either/or a mix of on-the-job or off-the-job as above.

Work-based learning:

- is structured arrangements of learning which can be undertaken in the workplace and/or a simulated work environment using a range of learning methods and models.

Workplace learning:

- includes work-based learning arrangements where the learning (training or assessment) occurs in a workplace environment.

Structured learning:

- is a learning arrangement where appropriate curriculum outcomes are identified, organised, assessable and are incorporated as part of the formal accreditation of the training program.

Generic:

- applying to work generally rather than being specific to work in particular occupations or industries.

1.4 The Current State of Knowledge and Research on Key Competencies

The challenge of the key competencies

The key competencies as developed in Australia are supposed to provide significant and productive links between performance in both education and the workplace. In order for

them to do so with any success, at least two significant challenges need to be met. Firstly, there are the traditional tensions between education and work. These stem from dichotomous assumptions about general education vs. vocational education; mind vs body and education vs. training. These tensions are enduring and influential and will need to be resolved. One reason for this has been the belief that the proper focus of 'real' education is propositional knowledge, as exemplified in the traditional disciplines and subjects. This preoccupation has engendered the dichotomous thinking which views vocational education as mechanistic and unproblematic training in contrast to genuine education which is challenging and intellect developing (Hager 1994).

Given these assumptions about vocational education vis-a-vis 'real' education, much of the literature that seeks to expound the key competencies does so from the perspective of research about schoolroom teaching of propositional knowledge. While this is, no doubt, a source of some valuable insights, it needs to be remembered that the key competencies are not essentially propositional. They are more capacities and abilities to do certain things. In this respect, they have a lot in common with certain kinds of workplace skills. Yet there has been a tendency to overlook the fact that literature on the nature of vocational skills may be a source of equally valuable insights on key competencies. Hence, a theme of this section will be the implications for key competencies of relevant research into skills and skill formation processes. This includes research on the development of vocational expertise, workplace learning, and novice/expert comparisons.

A second challenge posed by the key competencies centres on the question of how to teach them successfully. Success in teaching the key competencies means that the learners must be able to transfer the learning to new situations. Once again, the literature on this issue tends to be informed largely by research about schoolroom teaching and its effectiveness. Thus, a second theme of this section will be the implications for the teaching of key competencies of relevant research on teaching and learning in vocational education and training situations, including workplace learning which, in most cases, does not involve pedagogy as traditionally conceived.

The following discussion begins with an outline of a National Training Board sponsored proposal for identifying the extent of the embedding of key competencies in industry competency standards. It then moves on to consider various ideas relevant to the development of key competencies in vocational and workplace learning.

Key competencies in Industry Standards: The National Training Board Model

Rumsey (1995) undertook a project for the National Training Board Ltd which examined the extent to which the key competencies were explicitly or implicitly embedded in industry standards and made recommendations on approaches which should be adopted to further incorporate the key competencies in industry standards. His report also provides a draft strategy for targeted promotion, and marketing and information dissemination on the key competencies and related initiatives to stakeholders in industry, the vocational education and training system and the secondary education system.

On the basis of information obtained via document analysis, workshops and other consultative processes, Rumsey found that there was support for the identification of the key competencies in industry standards, if the approaches used were simple, easy to use, consistent and relevant to industry needs. To address these issues he developed and trialed technical guidance materials in a review of all endorsed competency standards. This material includes a matrix for mapping key competency performance levels against the sets of endorsed standards (by competence unit) and the documentation of the processes for use in reviewing or developing standards which incorporate the key competencies.

Rumsey found that key competencies were explicitly or implicitly embedded in all of the industry standards examined. His report indicates that the processes developed and trialed:

> *...were found to be easy to use and assisted greatly not only in the identification of key competencies in Industry Standards, but also in the process of developing and reviewing standards themselves by revealing gaps and opportunities for a more comprehensive description of the required competence (1995: 16).*

Consequently, Rumsey recommended the use of this material by Competency Standards Bodies and the provision of related professional development. He also suggests that the processes and technical guidance materials should be used in other applications, such as the development and review of curriculum, educational resources, assessment instruments and job descriptions.

The report also emphasises the need for increased industry participation in key competency initiatives and the need to adequately consider contextual factors (ie. specific practical workplace situations and contexts) in the development, assessment, recognition and reporting of key competencies. To facilitate this process a number of models and recommendations are provided. These include:

- a model for examining issues of transferability and the ongoing development of key competencies through a cyclical process of application, development and reinforcement across a series of specific contexts;
- an exemplar for the development of a dictionary (or thesaurus) of key words, drawn from a variety of industry contexts, for each of the key competencies; and
- a recommendation for the development of a library of industry based examples of applications of key competencies, which should demonstrate and enhance understanding of both the key competencies and the three performance levels for each key competency.

An issue not highlighted in the report is the varying interpretations of when a key competency is considered as present within a standard. Varying interpretations of a similar nature also featured in the curriculum projects undertaken as part of this project, and highlights the need for a common framework for determining the presence of key competencies in both industry standards and training curriculum.

Although Rumsey's retrospective mapping exercises have some value, their backward looking nature may do little to encourage initiatives to actively integrate the key competencies into standards and curriculum. In this respect, the NSW key competency descriptors are forward looking in that they provide a language of key competencies which should greatly assist those engaged in ongoing revision of standards and curricula to better incorporate the key competencies. In this context Rumsey's recommendations for a dictionary of key words and a library of industry based examples should not be overlooked.

An ongoing problem is the application of the Mayer performance levels to the key competencies. One widespread confusion is that, for many people, the notion of levels conjures up the idea of grades within a particular workplace performance, rather than the idea of higher levels of competence being needed as work becomes more complex. What was clear from the current project was that there is a developmental process in key competency acquisition within the context of the workplace as workers progress from the novice stage through to proficiency. However any attempts to equate levels to these stages of key competency acquisition across different industries and occupations appears to be necessarily arbitrary and dubious. At the very least, this issue requires careful research of a kind that was beyond the scope of the present project.

Vocational expertise and the key competencies

If the key competencies are to be integrated into on-and off-the-job training arrangements, it may be useful to understand them in terms of how they relate to vocational expertise.

It has been argued that expertise consists of the ability to co-ordinate the use of specific skills, general procedures and conceptual knowledge when confronting problematic situations (Stevenson, 1994). In a recent work drawing together much of the expert / novice literature, Stevenson (1995) has identified the common ways by which experts and novices are differentiated. These differences are set out in the table below.

Differences in the knowledge of novices and experts

Characteristic	Novices	Experts
Knowledge organisation	Conceptually isolated facts	Structured, systematic coherent chunks.
		Accessible at different levels of abstraction.
		More non-salient knowledge.
Problem presentation	Surface features	Underlying principles
		Seen in terms of the whole model or system.
Knowledge structures	Compiled procedures, bound to conditions of applicability / goals	Declarative knowledge, isolated from applicability.
		General domain independent problem solving procedures.
Metacognitive skills		Approaching problems; monitoring; perceiving difficulty; apportioning time; predicting outcomes.
Attention	High demands	Automaticity

The bulk of the studies synthesised for this table are from the field of cognitive psychology. In that sense, they are related to the possession and control of certain cognitive structures considered to be valuable. These structures are thought to constitute various abilities and enable associated activities. However, whilst these summaries tell us that experts have more sophisticated skills, they don't specifically establish how these skills are developed. Although the characteristics of expertise can be considered in terms of the key competencies (problem solving; collecting, analysing and organising information; etc.), the processes associated with the development of expertise need to be examined if the key competencies are to have any role in such a process.

The constructivist view of learning asserts that individuals construct knowledge through an interpretive interaction with the social world they experience (Lave, 1990; Rogoff, 1990; Scribner, 1992). Thus socio-cultural constructivism contends that knowledge is developed through an individual's interaction with a socially determined world through its culture, communities and practices (Rogoff & Lave, 1984). This social underpinning of the development of expertise highlights the understanding that experts excel mainly in their own domains (Chi et al, 1988), and has implications for the conceptualisation of key competencies as transferable skills.

Everyday activities in the workplace, as well as other functional contexts, thus provide opportunities for knowledge and its application to be re-appraised, reinforcing the value and linkages among different forms of knowledge that may have been acquired in other contexts (Billett, 1995).

Therefore, robust vocational knowledge is most likely to be accessed and appropriated through engagement in the authentic activities of vocational practice (Brown, Collins & Duguid, 1989). The key competencies can play a role in this process by being the vehicle for authentic context specific learning events.

Resnick (1987) and Stasz (1994) have noted that the school programs that are most effective at teaching students to think and solve problems have much in common with the learning processes that typify apprenticeships: they move from the particular to the general, they set learning in context so that understanding grows, and they build competence a step at a time. This notion of a cognitive apprenticeship (Collins, Brown & Newman, 1989) by necessity involves the key competencies as integral design features of learning events.

Furthermore, Lave & Wenger (1991) argue that learning should be situated in a community of practice, where the socio-cultural facets of that culture and the learner's association with that culture are important. Successful learning thus seems to be related to the formation of identity, where members move from the outer peripheries of a community of practice to full acceptance within the community.

This relationship between personal development and the development of expertise has also been explored by Baxter-Magolda (1993) who related the formation of identity to the boundaries around oneself and the connections with others. Dispositions, individual differences, prior knowledge and motivational factors are also issues that have consequence for the development of expertise. That is, the notion of competence and expertise is relational. It brings together disparate things - abilities of individuals

(deriving from combinations of attributes) and the tasks that need to be performed in particular situations. (Gonczi, 1994).

The changing demands of the modern workplace have increased the depth and breadth of skills required, highlighting the limitations of confining instruction to specific procedures (Stevenson, 1994). The key competencies should be considered as a means of providing teachers and students with the opportunities to overcome such limitations. Through the use of integrated and authentic learning events that involve the application of a range of skills and abilities in a holistic fashion, the development of vocational expertise will be supported.

The Stevenson Model: Adaptability and vocational expertise

John Stevenson at Griffith University has developed a model for promoting the adaptability of trainees and understanding vocational expertise (Stevenson, 1986a, 1986b; 1991; 1994; Stevenson and McKavanagh, 1992). His earlier work used cognitive theory to understand adaptability as higher order cognitive procedures which enable learners to apply existing lower order knowledge such as facts or techniques to new situations. Knowledge is regarded as both procedural knowledge (knowledge how) and declarative or propositional knowledge (knowledge that). First order procedures are said to control knowledge of specific tasks; second order procedures control knowledge that, and can assemble specific task skills into general procedures; and third order procedures control switching between the first and second order procedures (Stevenson, 1994). Adaptability can be developed by putting trainees in situations which press them to 'compile' lower order procedures into higher order procedures, in order to solve problems and create new applications of existing knowledge. He argued that an 'open environment' is necessary for adaptability to be learned in this way - for example, when electrical apprentices crawl under houses to locate wiring circuits, trainee mechanics dismantle an unfamiliar type of clutch or trainee hairdressers razor-cut hair to an unfamiliar style without prior instruction, (Stevenson, 1986b). Thus it is unlikely that didactic content transmission in the classroom with little emphasis on problem-based learning will foster the 'deep conceptualisation' of knowledge and the ability to work adaptively (Stevenson, 1994).

Workplace training that is confined to lower order procedures sets up barriers to a more flexible and skilled workforce. In his later work, Stevenson (1994) suggests that 'vocational expertise' can be comprehensively developed in a number of ways which go beyond teaching for specific skills:

- procedures: it is necessary to have both specific procedures for routine tasks and 'higher order interpreting, problem solving and evacuative procedures to deal with for dealing with new, unfamiliar and unpredictable situations';
- conceptual knowledge: experts also need to have, besides a knowledge of procedures, a depth of conceptual knowledge, of underlying principles and 'whole systems' for recognising, classifying and dealing with problems;
- links of procedures and concepts: learners need to bring together their conceptual and procedural knowledge by experiencing a variety of problem solving situations, so they can extract underlying principles and relate them to procedures; and
- induction into a community of practice: learning must both embed learning in a functional context, helping learners access the culture of a 'community of practice', but it must also dis-embed the learning by requiring learners to apply their expertise in different functional contexts (Stevenson, 1994: 26-27).

Stevenson's model would suggest that learning the key competencies is facilitated by situated learning where trainees are 'pressed' into higher-order procedures, compiling lower order knowledge into higher order as they deal with challenging work situations. The key competencies may be seen as (a) entering into the development of adaptability by providing general procedures such as problems solving skills, and (b) being themselves developed as an outcome of the formation of higher order procedures that enable transfer of learning to different kinds of situations. Stevenson's model makes problem-solving and other generic skills an integral part of an approach to vocational learning, where the aim is to make learners adaptive. This model also does not separate specific and generic skills, procedural and conceptual knowledge, but suggests how they work together to produce expertise.

The implication is that it is unwise to see the key competencies as something distinct from situated workplace learning. Rather they may be understood as the generic aspect of specific occupational learning. This model agrees with the view that the key competencies should be developed through situated and contextual learning, since in terms of cognitive theory, this is really the only way they can be developed. Didactic content centred teaching without a component of active, problem-based learning is not going to develop generic skills.

The Petra Project

The Petra project undertaken by the German Federal Government and the giant German manufacturing firm Siemens was a training initiative which came about in response to

significant technological changes occurring within the industry. Siemens is a producer of various versions of small series coils and is reliant on a flexible manufacturing process which uses electronics and data processing. Trainees in both electrical and mechanical work are involved and the project aimed to develop in them a set of core skills considered essential to their work. This project was identified by Gonczi et al (1995) as representing international best practice in the development of generic competencies.

The five core skills identified by the Siemens training staff as essential to the company's manufacturing process are similar to the key competencies:

- Ability to organise and carry out the task
- Communication and cooperation competencies
- Ability to apply techniques, think independently and solve problems
- Work independently and accept responsibility
- Ability to work under stress

These competencies are common to all jobs in the new manufacturing environment in which Siemens operates. It was decided that they should be integrated into the traditional technical skills training program. The aim was to ensure, as well as developing both the core and technical skills in the trainees, that the skills would be transferable and that trainees would be able to respond to new situations. The program was to proceed using one of three possible methods. Either trainees were asked to plan their own projects, a small team planned individual work to be carried out by individuals, or teams planned the work leaving each individual the responsibility for their own sub plans which were overseen by the team. Each of the three methods comprised six steps:

- Information gathering - the trainer lectures on the necessary technical data and explains how and where to find material. Trainees then work together to plan the task, learning to be self-directed and to cooperate.
- Planning - the group formulates a plan, taking into consideration equipment required and safety aspects.
- Reaching a decision - the trainees reflect critically on their plans and discuss the techniques and their application with the trainer. A decision must be made by the whole group.
- Carrying out the plan - the groups undertake the task while being observed by the trainer who watches for competence in technical as well as core skills such as cooperation.
- Assessing the results - self and peer assessment are used and the trainer does random checks on the quality of the work.

- Final debriefing - the trainer and trainees reflect on the task as a whole and the trainer reports to the group on their competence in the core skills.

The success of such a program will of course require investment into trainer training and into thorough investigation of the core skills and their role in the various work procedures. Although the PETRA model, in its Siemens form, will not be appropriate for small organisations, the six step cycle could certainly be used. What is critical is a conception of competence which integrates both the technical and the general. Such a conception would allow the development of the key competencies simultaneously to the development of technical sills. It requires simply that supervisors think about projects, and trainees consciously undertake projects, within their real work, incorporating the six steps and having an awareness of the key competencies.

Teaching and learning the key competencies

From the preceding discussion a number of fairly clear principles about workplace learning can be identified:

- It is very different from classroom learning.
- It is not so reliant on teachers and formal curricula.
- Knowledge is not favoured over practice; rather the two are integrated in a seamless whole of 'know how'.
- This 'know how' grows and develops with appropriately structured experience.
- This 'know how' is often implicit.

As well as being learnt in the workplace, key competencies also need to be learnt in schools. According to Lohrey (1995) teaching the key competencies is not easily based on traditional understandings of knowledge and classroom teaching. Lohrey produces a list of principles that he claims need to be applied for successful teaching of key competencies:

High road transfer;
Explicitness;
Self awareness;
Integrated thinking and action;
Active and interactive learning;
Multiplicity; and
Integrated procedures.

Lohrey's principles are largely derived from the example of Alverno College in the USA which features a reportedly successful and innovative approach to teaching and assessing higher order generic competencies in professional preparation courses in the fields of teaching, business and nursing (see Hager, 1992). Teaching and assessment at Alverno are based on eight principles whose implementation requires an unusual degree of time, cooperation and commitment from staff. In the Alverno case this dedication has been forthcoming because the college is a former training institution for a religious order staffed by nuns. Lohrey's main advance on the Alverno principles is to add a linguist's perspective on the conditions needed to facilitate high road transfer. This includes a central role for metaphors and a requirement for learners to engage with the deep structure of knowledge. The magnitude of the task posed for teachers by Lohrey is clear from his assertion that '[e]xisting teaching practices and curricula in all sections of the education industry in Australia have been designed for low road transfer.' (1995: 47).

If the key competencies as applied in Australia are to provide significant and productive links between performance in both education and the workplace, then some common ground will need to be found between the five principles about workplace learning outlined earlier and Lohrey's principles for teaching key competencies. The two sets of principles appear to be at odds in some respects and in agreement in others. There is obviously scope for further work here.

The research on key competencies in workplace training and learning reported in the following chapters suggests that the key competencies provide a good basis for viewing work more holistically. Clusters of the key competencies appear to underpin any significant unit of workplace performance, i.e. the key competencies are best not treated in isolation from one another in the workplace. This suggests that one way of linking education and the workplace via key competencies would be to view the development of the key competencies as becoming gradually more integrated and holistic as young people move through schooling. By the time that they are ready to move into workplaces the idea that sound performance in very many of life's situations centres on deployment of suitable combinations of key competencies could facilitate their transition to work.

1.5. Our Approach

Introduction

As outlined in Section 1.2. the project consisted of two parts, with different goals. Consequently, different research approaches were required. This section provides an

overview of the methodology for Parts 1 and 2 and outlines the working assumptions used during the development of Part 2 tools and approaches. Problems and constraints experienced by the research team are identified also.

Part 1

Part 1 involved five researchers working with personnel engaged in on-the-job curriculum development projects. These contacts had indicated a willingness to work with members of the UTS research team to enable an analysis of the practices and models used when incorporating the key competencies into the curriculum being developed, together with the identification of emerging issues and their implications. The contacts (or industry partners) and the focus of each case study are identified in the figure below.

Automotive Training Board of NSW: Service Station Operations Traineeship, to be accredited as a NETTFORCE program.
Beresford Concrete: An enterprise Concrete Production Certificate, developed as part of the DTEC funded Enterprise Training Program (ETP).
Civil Construction Industry (formerly the Earthmovers and Road Contractors' Federation): Certificate in Building and Construction - Civil Operation (Plant), developed as a DEET funded Australian Vocational Training System course (AVTS).
Local Government Industry Training Committee (LGITC): Curriculum modules for the introduction of competency based on-the-job training.
Timber and Building Materials Association (TABMA): Recently developed Timber Wholesaling Certificate, developed as part of the DTEC funded Enterprise Training Program (ETP).

As the curriculum projects were being undertaken by various groups and some projects involved the contracting of external consultants, the five cases included in Part 1 required somewhat varying approaches. However, each case involved at least two interviews with the curriculum developers and other stakeholders, together with document analysis. In two instances (Beresford Concrete - Concrete Production Certificate and the Service Station Operations Traineeship) the curriculum developers undertook activities to retrospectively map the curriculum for the presence of key competencies.

During field research members of the research team met fortnightly to plan collaboratively, compare approaches and discuss emerging issues.

Chapter 2 presents the results of the Part 1 field research. It includes the five case study reports, together with an overview which identifies common themes and emerging issues.

Part 2

A team of seven researchers was engaged in Part 2 of the project, which sought to develop a series of models for incorporating the key competencies into on-the-job delivery, assessment and reporting. DTEC used a range of sources to identify four to five workplaces from each of five industries: Clerical/Administration; Information Technology; Hairdressing, Hospitality; and Metals. The sites in the hospitality industry were provided by Tourism Training NSW, Bradfield College provided some information technology contacts, the Professional Hairdresser's Association gave details of salons, with the remainder identified through Departmental sources. The term 'industry' is used in this report to cover both industry groups, such as Metals and Hospitality, and occupational areas, such as Clerical/Administration.

The table below demonstrates that efforts were made to include a cross-section of workplaces. Further information on workplace contexts is reported in Chapter 3 of this report.

Overview of Part 2 Workplaces by Industry Group

Industry	Workplace
Clerical/Administration	Screen printing business
	Radiography practice
	Telecom reseller
	Large pharmaceutical company
Information Technology	Small electronic sales and repair business
	Large pharmaceutical sales company
	Medium sized computer repair centre
	Employment and training services provider
Hairdressing	Suburban specialty salon (A)
	Specialised franchise salon
	City franchise salon
	Suburban specialty salon (B)
	Suburban specialty salon (C)
Hospitality	Medium-sized hotel (A)
	International hotel
	Small restaurant
	Medium-sized hotel (B)
	Large catering company
Metals	Medium-sized fabrication shop
	Electronic equipment manufacturer
	Large metal fabrication company
	Large manufacturing business

As this component of the research involved contextualised inquiry, action research processes were used. This research process has a dynamic, cyclical pattern focussing on practice, collaboration and participation (see Kemmis & McTaggart, 1984; Kemmis &

McTaggart, 1988). In addition, during the design of all tools and approaches developed during the projects, a set of working assumptions were applied. The seven working assumptions, which were developed by the NSW VET sector key competency pilot project, are provided in the following figure.

Working assumptions: the foundation for designing project approaches and tools

- Key competencies should be explicit in curriculum design, delivery and assessment.
- Key competencies are best developed within a real work context, but this needs to be supplemented by other strategies which help the trainee to make sense of this real work.
- Key competency development requires that trainees reflect on, evaluate and articulate their own learning and performance of the key competencies.
- Key competencies are inter-related and overlap. They are not totally separate from each other. Opportunities which allow for learners to develop key competencies in a holistic way will provide the most meaningful development.
- There is a need for trainees to develop generalisations from practice that will stimulate the transfer of learning to other contexts. Trainees need to consider what they have learnt in terms of how it might be applied elsewhere.
- Key competencies are developed through the situated process of learning.
- The assessment of key competencies requires that learners have opportunities to learn, develop and demonstrate the key competencies.

Prior to the commencement of field research, researchers were involved in planning activities which included confirming worksite participation and planning approaches for initial site visits. As part of this phase three project information sheets were developed (see Appendix 1). Information Paper 3 included the identification of three possible approaches for incorporating key competencies into workplace training. The three approaches were:

- Working with Industry Standards;
- Using key competencies to organise training; and
- Working with training scenarios.

Identification of the three approaches represented a starting point for the action research process and was not intended to be exhaustive. The figure below overviews the key aspects of the action research process used during field research.

Site visits were scheduled from mid-September until mid November, 1995 to enable the completion of two action research cycles at each site. However, as discussed below, this was not always feasible.

Throughout the projects members of the research team met regularly (approximately fortnightly) to: discuss emerging tools/approaches observed in industry practice; discuss issues and obstacles; and formulate, exchange and debrief on the tools/approaches being piloted. Researchers also provided regular feedback to stakeholders involved in the project at each of the sites.

Key steps in the action research process used in this project

- A focus on context: The process must suit the needs of the context so it is important to understand what is occurring at the site, how things are done and why. Establishing a collaborative relationship which will facilitate mutual interaction is important in this two-way learning and advisory process.
- Development of a general plan of action by the researcher, based on improving what is already happening. This plan was agreed with industry personnel following discussions which sought to match the workplace context with key competency approaches identified from previous research.
- Researcher acts to implement the plan (eg introducing a tool/approach or assisting in making an existing implicit approach explicit).
- Researcher observes the effects and appropriateness of the action within that specific context.
- Researcher and other stakeholders reflect on the effects of the action, using this reflection as the basis for further planning and subsequent action, through a succession of cycles.

(adapted from Kemmis & McTaggart, 1984: -11)

The process used to report project findings has mirrored the field research process. A collaborative team approach has been applied in the preparation of this report. Chapter 3 of this report overviews the tools and approaches developed during the research process and provides contextual information on the matching of tools and approaches with sites. This section also provides an overview of lessons and issues emerging from the research. Case study reports for each of the 22 sites are provided as Appendix 3.

Issues and constraints in undertaking the research

Due to reporting deadlines all aspects of this project (including project planning, research and report preparation) were completed during a four month period from mid-August to mid-December, 1995.

This timeframe represented a significant constraint on the project, particularly given the number of workplaces involved and the need to assemble and coordinate a research team of seven people, able to work in an advisory partnership with industry personnel in each of the workplaces. Similarly, the timeframe did not allow for factors such as:

- industry personnel at some sites deciding that they ultimately did not wish to be involved in the project, which resulted in access to approximately 20 per cent of sites having to be renegotiated with new sites;
- the time required to develop collaborative relationships (including both an understanding of the key competencies by the industry personnel and a comprehensive understanding of workplace contexts by research team members);
- holiday breaks and other commitments of industry personnel, particularly leading up to the Christmas period, which affected both the extent to which people could be involved and also opportunities for the completion of two action research cycles; and
- the difficulties of matching the piloting of key competency tools and approaches with workplace training activities (such as the conduct of train the trainer programs, periodic performance review processes and most appropriate times for the involvement of trainees in piloting activities).

The tender document prepared by UTS identified that a period of approximately eighteen weeks was desirable to complete the project in a manner which would maximise project outcomes. The conduct of this project has confirmed the importance of assigning realistic timeframes for research projects, and especially to projects which require the development of collaborative relationships with training personnel in industry.

Chapter Two

2 Curriculum Issues

2.1 Overview

The aim of this part of the project was to examine how the key competencies are being incorporated in on-the-job training curricula and to clarify models that might guide this process of incorporating key competencies into workplace training.

One finding of the recently developed NTB model for incorporating key competencies (Rumsey, 1995) was the need for more industry specific examples to demonstrate what is entailed. The project therefore conducted five case studies on curriculum projects in five different industry contexts in order to examine some of the issues as they were experienced at the industry level. The case studies set out with a number of issues. In summary:

- How are the key competencies being understood in the industry in relation to their curriculum development, and how do they compare with existing industry/workplace ideas of generic skills?
- Have the key competencies been incorporated either implicitly or explicitly in this industry's training documentation?
- How viable is it to make the key competencies explicit during on-the job training practices, for example, by linking an activity to the key competencies, as well as to a vocational outcome or outcomes?
- How viable is it to assess the key competencies separately from vocational outcomes given an appropriate framework? Is it feasible to offer a separate credential, or would it be better to incorporate some descriptive comment into existing reporting arrangements?
- Is it desirable to allow trainees to engage actively in self assessment as a way of monitoring the development of the key competencies (e.g. in log books)?
- What are the professional development requirements of industry based curriculum developers, and the workplace trainers for whom the programs are being developed?

The case studies involved the following curriculum projects:

- Service Station Operations Traineeship
- Concrete Production Certificate
- Local Government Workplace Training
- Certificate in Building and Construction - Civil Operation Plant
- Timber Wholesaling Certificate

The first part of this section reports on the issues emerging from the case studies.

2.2 Emerging Issues

From the five case studies carried out and reported at the end of this section, there are several issues which emerge:

- *The value of an industry competency standards framework*

Establishing the presence of the key competencies in industry standards is a useful first step to incorporating them in training. A framework exists which can be used to link the key competencies to learning outcomes of specific contexts and workplace situations. This can help to overcome a perceived weakness that key competencies are not being seen as an aspect of situational and contextual learning. The linking process is assisted by the practice of 'mapping' the presence of key competencies on to elements of competence. Mapping refers to the practice of examining each element of competence or related training module and identifying whether the key competency is present and to what degree if at all. The mapping exercise is a useful first step in highlighting, promoting and assessing their further development in workplace training. However, it is a first step required to meet the accreditation requirements of state recognition authorities for evidence on how generic competencies are developed, and further directions will need to be provided on how presence is to be determined.

- *Industry understandings of the key competencies.*

There are two areas of potential misunderstanding related to the use of industry standards. One is the belief that having mapped one or more key competencies as present in an industry training standard, the key competencies are therefore 'present in training' automatically and little more has to be done to stimulate their development as an outcome. The mapping process has no impact on the design and delivery of learning events and could be counter-productive if there are not strategies for further development. There is some risk that curriculum developers may be going no further than the mapping exercise in the belief that this is all that is needed to take care of their development.
A second limitation is that the mapping of each key competency on to each element of competence in industry standards can lead to an atomistic approach which militates against the idea of an integrated approach to the design and delivery of training. Trainers

may feel that if aspects of certain key competency are clearly present across a range of elements of competence, then it is 'present' in training. Viewing the key competencies separately in this way makes it difficult to see how they can combine in different ways in a workplace training situation. This limitation is overcome by looking at training in a holistic way, in terms of training situations that combine both specific and generic competencies as outcomes of training.

The case studies in Part 2 of the project give some clues about the value of designing on-the-job training in holistic ways that relate groups of the key competencies to selected training situations. Curriculum modules for workplace delivery could use this holistic approach to the design of training. This partly overcomes the difficulty some trainers see in the key competencies adding yet another level of assessment into the training process. It is therefore important to highlight, in professional development, this situational approach to curriculum development.

- *The key competencies are outcomes and 'enabling' knowledge*

Another possible limitation emerging from the case studies is a lack of clarity over the fact that key competencies can be both enabling or underpinning knowledge, and a learning outcome. Accreditation requirements and the mapping of key competencies in industry standards places the emphasis on the key competencies as outcomes. Seeing the key competencies only as outcomes limits their role as part of the process of workplace learning. Some curriculum developers are clear that the key competencies also provide underpinning knowledge and skills that enable or facilitate workplace learning in specific elements of competence. They are 'integral' to the successful performance in a given area. This is most obvious in the case of language, literacy and numeracy components of workplace learning (see the Local Government case study). The emphasis on key competencies as outcomes should not detract from seeing their role as enabling workplace learning of other kinds. To enable higher order learning, they must be present at a minimal level for the trainees.

- *Language literacy and numeracy issues*

Generic competence in language and literacy is essential for successful performance of many competencies, for example, when local government outdoor staff read and interpret the warning labels on chemical sprays to meet OH & S requirements, or sawmillers measure sawn lengths to the nearest millimetre. If generic LLN skills are not developed at a certain

level, they will need to be for specific competence to be achieved. This raises the issue of how the key competencies relate to language, literacy and numeracy issues in curriculum for workplace learning. The Local Government case study exemplifies some of the difficulties. In this study, the key competencies, though highlighted prominently in the industry standards, are being pushed into the background because of the concerns to ensure LLN is integrated in each workplace learning and assessment module. One position is that LLN and specific task knowledge are inter-dependent. The practical difficulties of supporting LLN teaching and learning are leading the training consultants to bring LLN together in a particular module, with the danger that the learning is de-contextualised.

Clearly, the key competencies and language and literacy and numeracy skills overlap to a very significant degree, though LLN competence is usually specified in much greater detail than the key competencies. It is important for trainers to have strategies to develop generic competencies (as in the case of literacy) and for curriculum documents to spell out these delivery strategies as part of particular modules. The key competencies cannot be enabling if they are not present at a minimal level for the trainees.

- *Key competencies as components of vocational expertise*

Much of the above can be summed up in the idea of an integrated model of workplace learning. In this model, the key competencies are not seen as an unrelated 'add-on' but as an important generic component of workplace learning. A simplistic view of workplace learning sees it as acquiring specific skills in a fragmented way. Where the mechanistic application of competency based training 'atomises' competence into its elements which does not bring different elements together in training situations. It is doubtful that such a model can achieve higher levels of performance. A more complex model sees workers combining specific and generic types of learning to develop higher levels of expertise. The Stevenson model points out that 'general procedures' for problem solving, interpreting and evaluating are important cognitive components of vocational expertise. Therefore, it is important for trainers to have strategies to develop generic competencies (as in the case of literacy) alongside and in combination with specific elements of competence and for curriculum documents to spell out these delivery strategies as part of particular competency units.

- *Assessment, reporting and credentialing*

The weight of opinion of participants in this project was against the assessment of the key competencies separately from vocational outcomes. From a practical viewpoint, separate assessment of the key competencies was seen as an unnecessary additional burden/cost. In addition, it is clear that the key competencies are more meaningful when placed in assessment tasks which also address industry specific competencies. That is, in practice the key competencies are embedded in actual workplace tasks anyway, so the assessment event is always richer than a single key competency. In fact this project found that several key competencies are likely to be simultaneously embedded, together with more specific competencies, in any significant unit of work.

The project was also asked to consider whether it is feasible to offer a separate key competency credential, or whether it would be better to incorporate some descriptive comment into existing reporting arrangements. From what has been said so far, the second option is clearly preferable. Thus the key competencies would be more prominent in the minds of trainers and trainees if they featured in assessment documentation provided for employers and trainees such as Training Record Books. Well designed incorporation of the key competencies into such documents might help to combat the atomistic 'tick and flick' mentality that too often characterises their use. Overall, it seems that industry would support this so long as it did not make on-the-job training more complicated by requiring separate assessment and reporting on key competencies.

2.3 Case Studies of Workplace Curriculum

The five case studies are structured in similar ways. First, the industry context and the curriculum projects are described. The contact of the project with the training consultants is then described, followed by a description of the issues arising from the case and a discussion of their implications for the incorporation of the key competencies in workplace training.

Case Study 1
Service Station Operations Traineeship
The Automotive Training Board has supported the development of a traineeship in service station operations based on existing industry standards. This was developed to facilitate the delivery of on-the-job training in an industry wide program, in contrast to enterprise specific courses for console operators run by petroleum companies. The project contract was initially unclear about how key competencies could be included in the program and discussion centred around how they could be assessed as part of the workplace training. The Mayer descriptors were regarded as too general to be applicable. The more specific descriptors were suggested but it was felt to be too difficult to include these in the learning outcomes. A specific performance level framework perhaps linked to the Australian Qualifications Framework (AQF) might help with this problem.

Context

The traineeship is being developed by MLW Training Consultants through State funding made available to the Automotive Training Board of NSW. The traineeship will be accredited as a NETTFORCE program leading to a credential at AQF Level 2. The program is based on existing industry standards and has been written in such a way as to facilitate delivery on-or off-the-job. The traineeship is primarily based on an enterprise specific console operators traineeship, also developed by MLW Training Consultants for Shell Petroleum. The program is for industry wide application, and is to be delivered by qualified workplace trainers. The aim of the traineeship is to provide entry level training for persons entering the petroleum/ retail industry through service stations. The consultant was chosen because of his considerable retail experience and understanding of service station operations.

At the time of the first meeting with the consultant, the curriculum was in draft–form and due for initial feedback from the project steering committee. The first meeting focussed on establishing the program context, and developing an understanding of the meanings ascribed to the key competencies. It was initially agreed that the consultant would retrospectively map the curriculum for the presence of key competencies, and where deficiencies existed in the program, relevant modules would be redeveloped. However, the consultant ended up changing all the performance criteria in the course and developing module and course maps.

Issues

- *Understanding the key competencies*

Whilst the Mayer report was used as a reference on the key competencies, the consultant was unsure as to how they were to be addressed in the program. The VETAB guidelines on course accreditation procedures indicate that evidence be presented on how the generic competencies are being developed, but further guidance is not provided. The consultant felt that he had considered the key competencies when he was initially writing the program, by using the Mayer descriptors to prompt the description of performance criteria. However, he found using the general descriptors from the Mayer Report difficult as they were too general and not easily relatable to individual learning outcomes. When he was given the more detailed descriptors used by the project (NSW Working Document 4b), he was able to use the key words to add to the performance criteria and commented that using those elements 'gave a better indication of the job' and made integrating the key competencies easier. He felt that the new performance criteria would make training and assessment simpler and clearer because the criteria had been contextualised even further through the integration of the key competencies. However, he found the elements were in some cases still 'too broad and too technical', and felt that a levels framework (aligned to the AQF/ASF) with key competency specific statements would be of assistance in developing curriculum.

A concern with using the elements is that it encourages a mechanistic approach that overlooks the integrated and holistic nature of the key competencies. The consultant's initial understandings reflected this concern as he understood that if the various elements were present across a number of learning outcomes, then the key competencies would be present. Due to the level of the program (AQF 2), he felt that not all the elements were applicable due to the nature of the work, particularly those dealing with an evaluative function. This may reflect a problem with the terminology of the elements, for when pressed, he agreed that an evaluative element was present within the learning outcomes albeit at an implicit level.

- *Representation in the curriculum documents*

The consultant found that integrating the key competencies into learning outcomes was impractical, and felt that the performance criteria were the most appropriate vehicle, albeit for implicit presence. He decided to explicitly identify the key competencies in course materials by including a modular map of their presence in each learning outcome. An

overall course map of each module was also provided, however these seemed primarily in response to accreditation guidelines. The 'Suggested Training Strategies' section gave no key competency related information except to suggest that they would be covered if the vocational competencies were covered. As part of the mapping exercise, the key competencies were considered present when 'most' of the elements were present, although this varied for each competency given the number of elements in the descriptors. Apart from the maps, there was no explicit mentioning of the key competencies in the course documentation.

- *Assessment, reporting and credentialing*

The consultant believed that having the key competencies integrated into performance criteria was seen as the means to ensure that they would be assessed. He also felt that a levels framework linked to the AQF would inform the development of performance criteria, but questioned its use to allocate a level/grade to key competency performance. He felt that separately assessing and credentialling the key competencies would be an additional burden/cost, but acknowledged that it would entrench the key competencies in the minds of the trainers and the trainees.

Implications

The key competencies can provide a means of enriching the understanding of what is required in a job if enough detail of the competencies is provided. Generic statements however go only part of the way. Curriculum developers need to have an in depth knowledge of the work to determine exactly what elements of the key competency are appropriate in particular contexts. Industry specific descriptors would be of use. If the key competencies are to be implicitly embedded in performance criteria, other mechanisms will be required to ensure explicitness in the curriculum documentation. If mapping of their presence in curriculum is to continue, guidelines will need to be established to indicate how and when a key competency is deemed to be 'present'. Staff development implications for curriculum developers are considerable if the key competencies are to be linked with the development of expertise and lifelong learning capacities. A key competency specific performance level framework may assist curriculum developers to embed the key competencies in course performance criteria. Support materials for key competency specific delivery methods will need to be built in at the curriculum stage—perhaps a series of cross module integrated assessment events. The separate/incorporated credentialling of the key competencies will be one way to maintain the profile of the competencies.

Case Study 2
Concrete Production Certificate
In this case study, the workplace training modules aligned to industry standards were developed to support production and the issue of key competency integration across the curriculum was a minor one. Examples of integrated training processes that support the key competencies would be of use to demonstrate a broader concept of vocational expertise that acknowledges the key competencies as underpinning effective occupational performance.

The case illustrates the problem where the key competencies are assumed to be present in a curriculum because they have been 'built in' to the industry competency standards. Where the key competencies are implicitly embedded in performance criteria, other mechanisms will be required to ensure explicitness in the curriculum documentation. For the key competencies to be integrated into workplace training arrangements, they must not be made solely in terms of the key competencies themselves, but as a means to further develop workplace expertise. The notion of vocational expertise should be broadened to incorporate the key competencies as an integral part of workplace performance.

Context

The company manufactures concrete products used primarily in the building and civil construction industries. The program being developed is an in house enterprise specific course consisting of 16 modules. Two are for off-the-job delivery with the remainder to be delivered by workplace trainers or supervisors on-the-job. All workplace trainers and assessors have completed an accredited workplace trainer course Category 1. The training will take place in the workplace as part of the normal production process with delivery to primarily involve explanation, demonstration and then guided practice. The program is for existing employees and new staff as required, being developed as part of the Enterprise Training Program offered by the DTEC. Successful completion of the program will lead to an accredited credential at AQF level 2, with an exit point available at AQF 1 if individual modules are completed. It is being developed by the Human Resources Manager. Each module is considered as a stand alone part of the program. The completion of any module will enable the trainee to receive a statement of attainment. The program is being developed with reference to the industry standards and a recently developed national curriculum that is in draft form. This has resulted in the national industry standards aligning well with the course learning outcomes, although credit against these standards is not granted unless it aligns with five contexts within the curriculum.

The first meeting focussed on establishing the program context, and understanding the meanings ascribed to the key competencies. It was agreed that the curriculum would be retrospectively mapped for the presence of key competencies. Where deficiencies existed in the program, relevant modules would be redeveloped to address the key competencies, however, due to operational difficulties, this process was not completed.

Issues

- *Understanding and using the key competencies*

The key competencies are not explicitly mentioned in the program nor in the draft national industry standards which are informing the project. The Mayer Report had been read by the curriculum developer who was aware of the eight descriptors, however whilst it was used as a reference, he was unsure as to how they were to be addressed in the program. The VETAB guidelines on accreditation procedures request that evidence be presented on how the generic competencies are being developed, but further guidance is not provided. In the development of the curriculum, his approach was that the competent performance of a task would imply the competent demonstration of relevant key competencies. Meanings of the individual competencies was based on a surface reading of the Mayer descriptors, one not involving the various elements from the supplied project resource sheet (see Appendix 1). During discussions, it was agreed that the training and assessment processes would determine whether the key competencies were to be developed.

- *Workplace priorities*

Training for production is the main focus. Being a work based curriculum developer, the issue of key competency integration across the curriculum and other more technical aspects were of little interest. This reflects a narrow conceptualisation of vocational expertise that does not acknowledge the importance of the key competencies as underpinning effective occupational performance. A greater need was to provide training that complied with relevant industry standards. In this case, examples of integrated training processes that support the key competencies would be of use. The Mayer report (1992) and the National Training Board report (Rumsey, 1995) are the only current resources available to guide both curriculum developers and workplace trainers. For the key competencies to be integrated into workplace training arrangements, they will need to be perceived as something relevant to industry rather than a form of surrogate schooling.

- *Assessment/reporting and credentialing*

Whilst the key competencies were acknowledged as being important, it was felt that industry would not want to make on-the-job training more complicated by having to separately assess and report on them. Descriptive statements incorporated into credentials

were thought to be of value for employers within an industry although it would mean additional work for workplace trainers and supervisors.

- *Representation in the curriculum documents*

The explicit incorporation of the key competencies into the curriculum was limited to a mapping exercise for accreditation requirements. As the program was the first of its kind to be introduced at the site, it was felt that explicitly referencing the key competencies would further complicate the process for trainers and supervisors who had only recently achieved workplace trainer status. Whilst the more detailed project descriptors and elements were provided, the presence of the key competencies was identified against the general Mayer descriptors. The key competencies were considered integrated if the assessment tasks included the relevant competency, albeit in a very general way.

Implications

The over reliance on industry competency standards for curriculum development may result in the key competencies being perceived as present in a curriculum if they were built in at the standards level. If the key competencies are to be implicitly embedded in performance criteria, other mechanisms will be required to ensure explicitness in the curriculum documentation. If mapping of the presence in curriculum is to continue, guidelines will need to be established to indicate how and when a key competency is deemed to be 'present'.

For the key competencies to be integrated into workplace training arrangements, they will need to be perceived as something relevant to industry rather than a form of surrogate schooling. Any recommendations for workplace training practices must not be made solely in terms of the key competencies themselves, but as a means to further develop workplace expertise. The notion of vocational expertise should be broadened to incorporate the key competencies as an integral part of workplace performance.

Case Study 3
Workplace Training in Local Government
Comprehensive national competency standards have been developed for local government, which has little tradition of workplace learning and assessment. Though the key competencies have been clearly mapped in every element of competency, they are overshadowed in the curriculum projects by the question of how language, literacy and numeracy issues are to be integrated into the workplace training. The key competencies are regarded as present as 'underpinning knowledge'.
The conflicts over how language, literacy and numeracy skills are to be integrated has clear implications for the key competencies. The pragmatic position is to bring together LLN as elements of competence in one of the common core units. The alternative is to recognise the 'inter-' nature of language, literacy and numeracy skills and specific areas of competence, and ensure LLN is learned in context. The incorporation of the key competencies cannot overlook the fact that specific language learnings are needed to 'enable' effective performance in other work tasks. The area of language, literacy and numeracy skills is therefore a crucial one for the future development of the key competencies and their relationship needs to be examined, especially with regard to encouraging 'integrated' models of workplace learning.

Context

Local Government is an area of public administration which has in recent years undergone rapid changes. Councils have expanded their traditional responsibilities in areas such as health and building to embrace a wide range of community services, pressed to do so by both community opinion and funding from state and federal government. The comprehensive national competency standards for Local Government recently endorsed testify to the wide scope of this activity, which includes aged care, youth and children's services, cultural activities and the environment.

In NSW and Victoria the state governments have rewritten the relevant Local Government statute, introducing corporate management and emphasising service to ratepayers. Organisational restructuring is occurring.

In the past few years councils had training officers and there was little workplace training for employees such as outdoor staff. The development of the competency based training sets up a comprehensive framework for increasing the scope and quality of training opportunities in the industry.

Curriculum

National competency standards were approved in June 1995. These range over nineteen fields of Local Government activity (for example, clerical, finance, libraries, children's

services, waste management, engineering, technical and civil works, recreation and tourism). There is also a field of 'common industry functions' which are relevant to most work fields. Four of these common units are regarded as 'core to all field and at all levels'. These core units (CUS) are: Provide effective service to customers; Follow defined OHS policies and procedures; Work effectively in the Local Government context; and Undertake workplace learning.

The national competency standards have followed the NTB model and mapped the key competencies in every unit of competence in each of the twenty fields. They are mapped in each unit in terms of the three Mayer performance levels using the matrix developed by Rumsey (1995).

The key competencies also appear to be integrated in the competency standards. For example, in one common field, for supervisory competencies (Co-ordination Supervision Management) several units of competence define standards for working in teams, for example, 'Coordinate the work activities of a team'. Each competency standard has in addition to element and performance criteria, information on workplace and other factors affecting the achievement of outcomes.

Curriculum modules for workplace training are being developed by the NSW Local Government Industry Training Committee (LGITC) which is managing three parallel pilot projects to introduce competency-based training into councils, integrate language, literacy and numeracy issues into this training, and devise appropriate assessment procedures. Three councils are involved in the projects: Shoalhaven City Council (in the area of Construction), Campbelltown City Council (Children's Services) and Waverley Council (Parks and Gardens).

Workplace training in the past has been informal and on-the-job and focused on the technical. As elsewhere, concepts of competency-based workplace training present new challenges, as more responsibility for learning and assessment is given to team leaders. Consultants stressed that to develop effective workplace learning they had to make a shift from the 'educator's perspective' on curriculum development and learn to think in terms of how workplace trainers see their role in promoting learning on-the-job.

The consultants and the project officers regard key competencies as 'underpinning knowledge' for workplace learning. Delivery and assessment of the modules is focused on the performance criteria for the elements of competence, and oriented to the immediate work task (which could involve a key competency, it is pointed out).The key competencies are not foregrounded in the guidelines for training for supervisors, which specify what the

supervisor needs to do to support the learning of employees. The consultants see the key competencies being mapped on to the modules when they are developed and there are no plans to highlight the key competencies in delivery or assessment of training.

Issues

Of the three parallel projects managed by the LGITC, this discussion gives most attention to the integration of language, literacy and numeracy into competency-based training in Local Government. This is because, in many ways, the issues in incorporating the key competencies and language and literacy have much in common and involve similar problems.

- *Should key competencies be assessed separately from other vocational outcomes, given an appropriate framework?*

A strength of the national competency standards is that they make the key competencies explicit and relate them to the standards. The separation of assessment would therefore be neither feasible nor desirable. It would run counter to the aim of integrating generic competencies into workplace learning expressed in the standards, and it would be seen as adding another assessment burden on workplace assessors. The project to integrate language, literacy and numeracy in on-the-job learning lends additional weight to developing assessment that is integrative rather than separate.

- *Is it desirable to allow trainees to engage actively in self assessment as a way of monitoring the development of the key competencies e.g. in log books?*

The national industry competency standards framework would provide support for such a development. The main focus is on specific competencies underpinned by generic competencies. Language, literacy and numeracy skills are often implied in performance criteria or specific tasks, so a question is who identifies needs for further training in this area and how this can be delivered, particularly to outdoor staff who have lacked access to training. Much effort in the Local Government projects has gone into resolving ways in which training materials can be structured to achieve this goal. The key competencies have not been a focus in the same way.

- *Making the key competencies explicit during on-the-job training*

Language, literacy and numeracy is one area where the link between generic knowledge and skills and specific task competence can be made more explicit. Some key competencies clearly overlap with language, literacy and numeracy (e.g. Communicating ideas and Using mathematical ideas and techniques). These competencies will provide knowledge and skills required for the person to be competent in a specific area of work in Local Government. Thus, ensuring that the person has the required level of language, literacy and numeracy competence is an essential element of the training. For this reason, the argument about how to integrate language, literacy and numeracy in Local Government workplace training is really also an argument about how the key competencies are to be incorporated into workplace learning and assessment. It seems artificial to separate issues of integration of language, literacy and numeracy from those of incorporating the key competencies. Language and literacy issues are one way in which key competencies are made more explicit.

- *What are the professional development requirements of industry based curriculum developers, and the workplace trainers for whom the programs are being developed?*

Competency-based workplace learning and assessment in the Local Government area represents a large shift of emphasis and the professional development needs of workplace assessors is a priority. The language, literacy and numeracy learning issues suggest that the key competencies need to be conceptualised in an integrative way if their incorporation in workplace learning is not to be seen as loading another level of responsibility on assessors. The emphasis of professional development would need to be on effective workplace training and assessment, and managing organisational change. Because the key competencies are not the primary area of professional development, they would need to be brought into relationship with other concerns.

- *Lessons from language, literacy and numeracy integration*

The ITC projects have been concerned with workplace training and the integration of language, literacy and numeracy into workplace training, not the question of key competencies, which are seen as addressed through the competency standards. Their incorporation is regarded as less problematic. However, the problem of integrating

language, literacy and numeracy parallels that of incorporating the key competencies, so it is interesting to see what links can be made.

One approach is to treat language, literacy and numeracy as elements of competence associated with 'Working in the Local Government context', one of the common core units. The difficulty is that specific language, literacy and numeracy skills need to be learned by employees to meet the performance criteria for a given unit of competence in their field of work, such as handling horticultural chemicals with safety. It is argued that language, literacy and numeracy should be learned in context in specific modules. The practical difficulties of organising this kind of integrated learning were pointed out by the consultants. A related problem is how language, literacy and numeracy needs are to be identified in the workplace by supervisors, when employees and even the supervisors may have language, literacy and numeracy weaknesses they do not want exposed.

The ITC project staff use the term 'interdependence' to describe how language, literacy and numeracy relate to field competencies and the same argument could be applied to the key competencies. That is, a specific element of competence may depend on developing a higher level of achievement of the generic competence. Or, development of the specific competency may lead to a higher levels of achievement. It is not possible for an employee to be competent in a specific area of job performance without being able to communicate in context.

One difficulty in implementing the integrated view is the habit of seeing language, literacy and numeracy learning mainly in institutional terms rather than as part of workplace learning. The usual model has been to identify language and literacy needs before training, with some onus on the employee to identify their needs for literacy courses, though employees may not be prepared to admit their difficulties in these areas.

Implications

- *Key competencies as enabling knowledge and as outcome*

The incorporation of the key competencies is seen as being achieved through their embodiment (integration) in the competency standards, and by the consultants as underpinning knowledge and skill. The language, literacy and numeracy integration issues foregrounded by the Local Government projects point to the need to understand the key competencies both as enabling knowledge and as an outcome of workplace learning. Thus, specific kinds of literacy need to be present to 'enable' competence to be demonstrated in

many areas of work. Then, if this level of literacy or numeracy is not present, then some learning needs to occur and when it does, there will be some enhancement of the level at which the key competency is achieved. In this sense the key competencies are also present.

- *Are key competencies something more than the generic aspect of contextualised learning?*

There is a question then of how the key competencies relate to specific task oriented learning. In the above example, learning can be seen as having two aspects - the specific learning of language, literacy or numeracy required to demonstrate a learning outcome required by an element of competence, and the improvement of the communication in its generic aspect, an enhanced ability to communicate ideas and information. This suggests that some thinking needs to be done about whether the key competencies can be treated as something entirely distinct from the contextual or situated learning. Are they anything more than the situated learning in its generic aspect?

From this point of view, the emphasis on the need to 'teach the key competencies in context' and ensure they are 'always situated' is beside the point. In workplace learning there is only situated learning and the question is how situated learning in one situation can be made to transfer to new situations.

Case Study 4
Certificate in Building and Construction - Civil Operation (Plant)
This case study shows through the analysis of a recently developed AVTS Program that when key competencies are built into industry standards, that curriculum developers may assume that they are universally present in training curriculum. The case study also examines strategies for including the key competencies explicitly and consistently in workplace training documents through modification to the existing Training Record Book, Statement of Attainment Sheet and Training Progress Report.

Context

There are many sectors which make up the Civil Construction Industry. These include earth movers, road makers, bridge builders, pipe layers, structural concreters, dam sinkers and so on. It is precisely because the industry has such wide coverage that it was seen fit to change the name of the industry body which represents it from the Australian Earthmovers and Road Contractors Federation to the Civil Contractors Federation (CCF). This change is one among many that has occurred in this industry in recent times. Other changes include the development of National Competency Standards in the plant area and a new competency based award classification structure which applies to all federal and state construction industry awards.

Civil contractors as indicated above perform a range of activities from general earthworks and plant hire to gas contracting and quarrying. Most of the contractors are small to medium size businesses, who execute projects for a combination of the following clients - local and state governments, the federal government, and the private sector.

This sector is characterised by its utilisation of expensive heavy machinery, the nature of the work undertaken and project locations many of which are in remote areas and are spread out geographically. These characteristics reinforce the need for unique problem solving skills, team work and independence.

The industry consists primarily of plant operators, previously covered by the Federated Engine Drivers and Firemans Association (FEDFA) and non plant operators (labourers), previously covered by the Australian Workers Union (AWU). Historically there has been a strong demarcation between the two. However in 1993 the FEDFA and BWIU combined to form the Construction Forestry Mining and Energy Union(CFMEU) which covers most of the plant and non-plant employees.

There is no history of structured training in this sector. Traditionally most of the work was public sector work and employees would learn their skills on-the-job using a buddy system.

Time was not a premium and training through trial and error was possible. In recent times public sector work is shrinking due to competitive tendering of jobs to the private sector. Budgets and time schedules are leaner and there is not much room for private contractors, who typically have no more than ten employees, to assist in structured training. Consequently there is an acute shortage of skilled workers and a demonstrated need for formal training.

Curriculum

Several factors are driving the need for formal training programs in this industry. These factors include an acute shortage of skilled workers, the development of National Competency standards and acceptance by the Australian Industrial Relations Commission of a new competency based award classification structure, which will apply to all federal and state construction industry awards. There is a need to move the emphasis from which machines operators can use to how well they can operate the machines.

These factors have led to the CCF taking on three contracts with the Federal Government in order to develop a Civil Operations Traineeship course titled the Certificate in Building and Construction - Civil Operation (Plant), funded by DEET, develop teaching and learning resource materials (funded by DTEC) and train 42 accredited workplace assessors (funded by DTEC). The Federation has a management committee that supervises all training arrangements, with membership from employers, union representatives, DTEC and DEET.

The Certificate in Building and Construction - Civil Operation (Plant) is an ASF level 3 traineeship course. It is a modular design and is divided into three stages which mirror the industry competency standards.

In Stage 1 (General industry skills), the trainee over a period of six months completes six off-the-job delivered modules, which are presented in six block release segments of a weeks duration (approximately 240 hrs). The remainder of the time is spent under close supervision at the worksite. Progression to Stage 2 requires successful achievement of all competencies identified in Stage 1 and all off-the-job modules of training. In Stage 2 (Basic civil stream skills), the trainee over a period of nine months completes five competency based off-the-job modules whilst on block release (approximately 240 hrs). Again the remainder of the time is spent training on the worksite with similar conditions applying to progression to Stage 3 as applied in Stage 1. Stage 3 (Civil field of work skills), requires

the completion of 480 notional hours of on-the-job structured training, over a period of 15 months.

To date only Stage 1 of the course has been finalised and is in operation as an AVTS pilot. All trainees are in employment because of the off-the-job and on-the-job training components. The on-the-job component is provided by a range of employers who receive a grant from DEET to part finance the costs associated with the necessary formal and informal training the trainee receives on the work site. They also receive an additional amount upon completion of the training when the trainee has achieved the Construction Worker Level 3 (CW3) accreditation. In turn employers need to conform to the selection criteria which include membership of the Federation, commitment to ethical practice, their business record and suitability of equipment and work for the traineeship.
The off-the-job component is being delivered by TAFE and other private providers.

Documentation for the on-the-job component of the AVTS course are part of DTEC funding requirements and includes Training and Assessment Guidelines and The Civil Operations Training Record Book. These documents usually follow particular guidelines. In addition they have been grounded in some of the earlier documentation prepared by the CCF namely the national competency standards, the training specifications, assessment specifications, the proposal for the AVTS course and the training plan.

Issues

- *How do the key competencies compare with existing industry/workplace ideas of generic skills?*

There is a very close connection between the two. A close examination of the National Competency Standards reveals that in Stage 1 the first 6 of the 28 competency units are referred to as 'general skills'. With titles such as Communicate Essential Information, Read and Interpret Plans, Organise Work and Carry Out Basic Measuring these units closely resemble key competencies 2, 3, 4, 5, and 7. In Stage 2, the first 8 competency units are also referred to as 'general skills' and again with titles such as Plan and Organise Work Schedule, Carry out Interactive Workplace Communication and Carry Out O H & S Requirements these units correlate with key competencies 2, 3, 4, 5 and 7. Key competency 1 is not as apparent but appears by implication and key competency 6 is embedded in most of the competencies in Stage 3. Thus by mapping the Mayer key competencies over the competency standards it is possible to claim that all the key competencies appear except perhaps for key competency 8, Cultural Understanding.

- *Have the key competencies been incorporated either implicitly or explicitly in this industry's training documentation*

Members of the Civil Contractors Federation who were interviewed believe that the key competencies were considered when the competency standards were being developed and have been embedded in them. They feel that this has come through in the development of subsequent documentation, such as the training and assessment specifications, the training plan and the proposal for AVTS funding, which required them to specifically address key competencies.

The first half of the Training and Assessment Guidelines -Stage 1- Basic Industry Skills is called 'Trainers Guidelines' and is designed to guide both on and off-the-job trainers in delivering the course. It covers all the six Stage 1 modules. Each module's purpose, relationship to competency standards, pre-requisites, summary of content and delivery methods is listed. This is followed by a detailed listing of the learning outcomes, together with suggested approaches and resources. As with the Competency Standards document all of the key competencies except for key competency 8 are implicit in the 6 modules. Another observation that can be made is that learning materials are offered for all 6 modules for off-the-job trainers, whereas learning materials for on-the-job trainers are only offered for Modules 5 and 6.

The second half of this document—Employers Guidelines—is designed to provide employers with assessment tasks that relate to the six modules in Stage 1. However many of the assessment tasks appear better suited to off-the-job training. For example Module 1 Task 3 and 4 'Written test response to the correct methods of completing a Time Sheet and associated calculation without error' and 'Complete a theoretical assignment related to group dynamics and work site committees'. Similarly in Module 2 Tasks 1.2, and 5 seem more suited to off-the-job assessment and in Module 3 Tasks 1.1 and 1.2.

- *Examine one module to see to what extent the key competencies are built into the learning outcomes and assessment criteria in order to see if these key competencies can be made more explicit.*

Module 1 Workplace Communication claims in its Purpose statement to 'instil in learners a greater awareness of the implications of effective workplace communications'. In its Summary of Content it lists key competencies 1 to 4:

- Collecting, analysing and organising information
- Communication ideas and information
- Planning and organising activities
- Working with others and in teams

This is the most explicit mention and use of key competencies in the entire document. The Learning Outcomes, Suggested Approaches and Assessment Tasks that follow also have the key competencies built into them, however these do not duplicate the language of the key competencies in the same way as the Summary of Content does, furthermore key competencies appear to be dealt with in a random way. For example although key competency 1 is explicitly mentioned in the Summary of Content there is no Learning Outcome or Assessment Task to match it; whereas key competency 2 which is also explicitly mentioned in the Summary of Content has four Learning Outcomes that match it (LO 1, 2, 3, & 5) and two Assessment Tasks (Tasks 1 & 2). In addition, key competencies 5, 6 &7 which are not mentioned in the Summary of Content are implied in Learning Outcomes 4, 6 &7 and Tasks 3 & 5. This kind of inconsistency occurs throughout the entire document.

In the rest of the modules key competencies appear by implication only and again in a random unmatched way.

- *How viable is it to make the key competencies explicit during on-the job training practices i.e. link an activity to the key competencies, as well as to a vocational outcome?*

Given the above analysis it would appear that it is viable to make key competencies explicit. One suggestion would be that in every module, the key competencies that are addressed should appear not in the Summary of Content but under a heading of their own e.g. Relationship to key competencies. This will signal very clearly to the trainer which key competencies need to be dealt with in any particular module. This is similar to the heading used to make the Competency Standards explicit. In addition, the wording of the Learning Outcomes and the Assessment Tasks could more closely reflect the language of the key competencies.

Another approach is suggested in the ACTRAC User's Guide to Course Design for Competency-Based Curriculum, (1995) (see Appendix 2). Here the suggestion is to explicitly mention key competencies in the course outline by providing a chart that details the alignment between the key competencies and the Course Modules. This is a useful

strategy, however unless trainers and employers refer to Course Outlines on a regular basis this exercise is lost to them.

Although it is viable and desirable to make the key competencies explicit in the on-the job training documentation, it is not necessary for key competencies to be delivered separately from vocational outcomes. In fact the industry would prefer that key competencies are integrated with vocational learning outcomes and good examples of this are scattered throughout the curriculum documentation. It is also possible for a single learning outcome to cover a number of key competencies and industry specific competencies (e.g. the scenario approach). What is important is that it is clear to trainers and trainees alike that in doing particular tasks they are achieving both industry specific competencies and key competencies.

- *How viable is it to assess the key competencies separately from the vocational outcomes given an appropriate framework?*

In this course it is possible to assess some of the key competencies separately from vocational outcomes. However similar issues apply here as they did for course delivery: the key competencies are more meaningful when placed in assessment tasks which also address industry specific competencies.

In the assessment section of the Training and Assessment Guidelines -Stage 1- Basic Industry Skills, assessment tasks are designed to do both. For example, in Module 1, key competency 1 can be assessed separately as in Task 1.1 or together with a vocational outcome as in Task 2.2. It is possible that the latter assessment task might be more meaningful to the trainee.

The other form of assessment documentation provided for employers and trainees is the Civil Operations Training Record Book.

This document has been developed specifically for workplace supervisors and trainees to enable them to document the on-the-job tasks performed by trainees. It is designed to be used in conjunction with the accredited off-the job training conducted by training providers.

The objectives of the Training Record Book are to:

- provide trainees with the opportunity to have their workplace skills on-the-job formally documented just the same as the off-the job skills are documented

- actively involve workplace supervisors/employers in the training process
- provide trainees with the opportunity to begin building a personal skills record
- contribute towards the recognition of prior skills for future training progression and employment

The Training Record Book is divided into three sections each of which match the three stages of the Course. Each section lists the modules, their related learning outcomes and the national competency standards that they reflect. It is thus very clear to both the employer and the trainee what needs to be covered.

Following this is the Statement of Attainment Sheet and the Trainee Progress Report. The former requires an employer/workplace assessor to indicate by a tick whether the trainee has achieved or not achieved the units of competence that apply to that particular stage of the course and to date the entry. In the case of non achievement of any of the competencies the trainee is meant to be provided with further training opportunities and re assessed at a later date. The latter, provides the employer/workplace assessor with an opportunity to comment on quality of work, application, personal effectiveness, understanding of work environment and any other additional matters.

Once again there is scope for the key competencies to be assessed and reported on separately as well as in conjunction with industry specific competencies. If required the Trainee Progress Report which currently looks at four generic competencies could be extended to cover all the eight key competencies.

- *How viable is it to allow trainees to actively engage in self assessment in order to monitor the development of the key competencies e.g. portfolios or log books?*

Given that the Training Record Book is meant to be the responsibility of the trainee it would be possible to include in it a section for the trainee to record his/her progress in attaining the key competencies, although ensuring that the trainee has a proper understanding of what these key competencies are and how they manifest themselves is far more problematic.

- *How viable is it to issue a separate credential for the key competencies, or incorporate some descriptive comment into the reporting arrangements?*

This actually occurs in this Course when the workplace assessor fills in the Trainee Progress Report.

- *What are the professional development requirements of industry based curriculum developers, and the workplace trainers for whom the programs are being developed?*

Industry based curriculum developers, particularly those who work on contract appear unclear about the key competencies. This accounts for the inconsistent way in which key competencies often appear in curriculum documentation. Consequently delivery and assessment problems ensue.

Formal professional development courses need to be offered for all curriculum developers, in addition to Train the Trainer schemes and mentor schemes for employers. This will assist in ensuring the delivery, assessment and reporting of the key competencies is better managed.

Case Study 5
Timber Wholesaling Certificate
This case study details an analysis of a recently developed Timber Wholesaling Certificate developed by TABMA as part of the Enterprise Training Program (ETP). It suggests a model for introducing the key competencies through industry generic skills, but notes that its success rests partly in TABMA's longstanding commitment to structured workplace training.

Timber and Building Materials Association (TABMA)

Analysis of a Recently Developed ETP Wholesaling Curriculum

Context

While this industry has always been involved in training to some extent, the last decade has seen a rapid growth in formal training arrangements, particularly at entry level. This has resulted in a situation where all entrants to the industry, whether young or old, are required to complete a short traineeship. In some cases, the term of the traineeship may be shortened considerably by the granting of RPL. The growth of formal training arrangements applies to all five sectors of the industry: harvesting, sawmilling and processing, merchandising and manufacturing, sheet materials, and pulp and paper.

This increasing commitment to training stems from a number of factors. The timber industry was responsible for some of the original traineeships when the concept was inaugurated in Australia in the 1980s as a measure to deal with growing youth unemployment. Traineeships, cadetships as well as apprenticeships spread quickly through the industry. State Training Boards were established. From the start, the timber industry traineeships were competency based and vocationally oriented. These courses have also been regularly modified as training has become more sophisticated. Other factors driving this training growth include technological change as properly trained staff are required to operate effectively the more complex machinery that is common in the industry.

A related trend is the emergence of larger companies as many of the smaller enterprises in the timber industry are bought out. For instance, sawmilling is now dominated by two main companies - Boral controls 60 per cent of hardwood milling and CSR has nearly 60 per cent of softwood milling. In the merchandising area BBC Hardware and A. Hudson have taken over many smaller businesses. These larger companies are more training oriented than most small enterprises. A further factor encouraging the growth of training has been the rise of environmentalism. An industry so closely connected with use of natural resources

increasingly needs to be seen to have a highly skilled workforce that also displays environmental awareness.

Description of the Course

The course under discussion is an Enterprise Training Program (ETP) in Wholesaling. It is registered in NSW by DTEC and accredited by VETAB at Level 2 of the Australian Qualifications Framework. This ETP course is aimed at entry level persons or those relatively new to the industry. It runs over 10 days in a year. These 10 days comprise 5 two day blocks for a total of 70 hours training.

Training Education & Management Services (TEMS) was contracted by TABMA to prepare and deliver the course. TABMA, as the industry organisation, is responsible for the training needs analysis that led to the course. It is also the group employer for trainees. TEMS, a separate training company, is the major NSW designer and deliverer of training for the timber industry. TEMS delivers the formal training for timber industry Traineeships and ETPs, as well as offering a large range of work related training courses to the timber and other industries. TEMS training courses span the following broad categories:

Supervisory and Management (e.g. Sawmill Managers Course, Workplace Trainer Category 1, Workplace Assessor);
Sales Skills (e.g. Telephone Sales, Stock Management);
Industry Based Skills Courses (e.g. Training Course for Sawyers, Chainsaw Operation, Kiln Operators - Softwood);
Personal Development (e.g. Managing Negotiation Skills, Customer Contact Skills, Team Building);
Safety and Accident Prevention (e.g. First Aid, Employee Safety Awareness).

The development of the draft ETP curriculum was relatively rapid (2 weeks) because it was able to draw significantly on relevant modules from existing timber industry curricula (e.g. Timber Merchandising/Sales Traineeship, Customer Service and Sales ETP) as well as on relevant competency standards (National Timber Industry Competency Standards, Forest Industries Competency Standards). The draft curriculum will be revised in the light of industry feedback. This industry feels comfortable with this process of curriculum development because it has been conducting CBT since 1987.

Issues

- *How viable is assessment of key competencies separately from the vocational outcomes?*

This is possible in the timber industry CBT courses. Forty two 'General Units of Competency' have been developed (see Table 1) as part of the National Timber Industry Competency Standards. These General Units of Competency form part of the competency standards for each of the five sectors of the timber industry. It would be possible for someone to be assessed on each of these general competencies by timber industry assessors. However this would be unlikely to occur as in practice people are usually being assessed on more sector specific competencies as well. That is, the generic competencies are assessed typically in situations which involve the context of the assessee's work, and so include some more specific competencies as well.

The course writer showed awareness of the principle of generic competencies underpinning other course modules rather than being a separate module on their own. Thus, even though, in the industry competency standards, the General Units of Competency are a separate component, training and assessment are more holistic in that the general competencies are integrated with more specific competencies. Some examples to illustrate this point are given later.

TABMA General Units of Competency

G1	Assist in delivery of training	G22	Plan to undertake a routine task
G2	Deliver and evaluate training (workplace trainer category 1)	G23	Plan a complete activity
G3	Assess trainees (workplace trainer category 1)	G24	Plan a complex activity
G4	Organise training (workplace trainer category 1)	G25	Work effectively with others
G5	Design and develop training (workplace trainer category 1)	G26	Work effectively in work groups
G6	Identify need for training (workplace trainer category 1)	G27	Work with and lead work groups
G7	Promote and manage training (workplace trainer category 1)	G28	Solve problems in the workplace - basic
G8	Identify need for training (workplace trainer category 2)	G29	Solve problems in the workplace - advanced

G9	Design and develop training (workplace trainer category 2)	G30	Interpret and solve numerical problems - basic
G10	Organise training resources (workplace trainer category 2)	G31	Interpret and solve numerical problems - advanced
G11	Deliver and evaluate training (workplace trainer category 2)	G32	Access and modify computer records and documents
G12	Assess trainees (workplace trainer category 2)	G33	Develop and produce non-routine computer documents
G13	Promote training (workplace trainer category 2)	G34	Plan assessment
G14	Manage training (workplace trainer category 2)	G35	Carry out assessment
G15	Communicate clearly and effectively in the workplace - basic	G36	Record assessment results and review procedure
G16	Maintain interactive communication in the workplace - intermediate	G37	Apply basic first-aid techniques
G17	Communicate workplace information - advanced	G38	Administer first-aid procedures
G18	Carry out work in a safe manner	G39	Implement quality control - basic
G19	Contribute to maintenance of a safe working environment	G40	Implement quality control - advanced
G20	Collect, analyse and organise information - basic	G41	Use basic hand held tools
G21	Collect, analyse and organise information - advanced	G42	Hand sharpen knives and blades

A quick comparison of the 42 General Units of Competency with the key competencies shows that all are represented in some detail with the exception of 'Using Cultural Understanding'. However it seems that this key competency underpins some of these 42 general competencies. This conclusion was confirmed by the course writer who pointed out that, e.g., G.15 'Communicate clearly and effectively in the workplace - basic' and G.16 'Maintain interactive communication in the workplace - intermediate' both mention cultural sensitivity in their performance criteria.

An overall estimate of how the Mayer key competencies line up against the forty two 'General Units of Competency' is as follows:

Collecting, analysing and organising information - explicit in 2 units, implicit in several others.

Communicating ideas and information - explicit in 3 units, implicit in several others.
Planning and organising activities - explicit in 3 units, implicit in several others.
Working with others in teams - explicit in 3 units, implicit in several others.
Using mathematical ideas and techniques - explicit in 2 units, implicit in several others.
Solving problems - explicit in 4 units, implicit in several others.
Using technology - explicit in 4 units, implicit in several others.
Using cultural understandings - implicit in several units.

These findings reflect the course writer's comment that 'the Timber Industry takes the importance of most of the key competencies for granted'.

- *How viable is issuing a separate credential for the key competencies, or incorporating some descriptive comment into reporting arrangements?*

A separate credential would be possible but would appear to serve no purpose. As already indicated, the general competencies are integrated with more specific competencies in training and assessment. Thus the general communication competencies would underpin both a training course in, say, Telephone Sales and one in Supervisory Skills. However they would take different forms in the two cases. In addition, clusters of the General Units of Competency form parts of various courses, e.g. G.34 'Plan assessment', G.35 'Carry out assessment', and G.36 'Record assessment results and review procedure' are prominent in the Workplace Assessor course. Units G.2 to G.7 are part of the Workplace Trainer Category 1 course.

Since the General Units of Competency are part of all timber industry competency standards, some descriptive comment about them could certainly be incorporated into reporting arrangements where it is not done so already.

- *How viable is allowing trainees to actively engage in self assessment in order to monitor the development of the key competencies (portfolio or log books)?*

Timber industry trainees do so now in that they keep record books of their training progress. Debriefing sessions to link their on-the-job experiences with their off-the-job

learning are structured into the current traineeship programs. In the nine years or so that the traineeships have operated, a gradual improvement in the effectiveness of these arrangements has been noticed by the trainers. However it should be stressed again that the General Units of Competency appear as part of other learning modules, rather than as separate general modules. So the trainees are assessing their progress in development of the general competencies as this relates to their specific work contexts.

- *How viable is making the key competencies explicit during on-the-job training practices?*

This is what happens now. The general competencies inform both teaching and assessment. As the following examples from the new ETP course show (see Appendix 2), they are explicit, particularly in the performance standards and assessment criteria. These are also examples of modules to be delivered on-the-job that deal with more than one of the key competencies.

- *The professional development requirements of industry based curriculum developers and workplace trainers*

Although the course writer had not heard of the Mayer key competencies as such, the strong use of generic competencies in timber industry training means that the general concept is probably more familiar than in some other industries. Thus timber industry curriculum developers are very familiar with generic competencies.

TABMA strongly encourages the situation where all industry trainers to have completed the Workplace Trainer Category 1 course. It provides opportunities for trainers to do this course. TABMA also accredits workplace trainers and assessors. All such persons are competent in all of the timber industry generic competencies. (TABMA follows the principle that assessors need themselves to be competent in the standards that they are assessing).

Implications

In developing and using its own 42 General Units of Competency that largely build on and expand the Mayer competencies, the timber industry offers a lot of food for thought for those concerned with implementing the Mayer key competencies. The ways that the

General Units of Competency permeate timber industry training and assessment practices appears to be a topic worthy of further research. A main question from this case study is whether any other industries have as strong a commitment to generic industry competencies as the Timber Industry does?

Chapter Three

Approaches for Incorporating Key Competencies in the Workplace: Results from Twenty Two Sites

3.1 Introduction

This chapter provides the results of the action research process, conducted in 22 locations and involving five industries. The results are provided by industry, using a similar format. Each industry-specific section provides an overview of industry contexts, information on the tools developed and piloted, and lessons learnt from the piloting process. As noted in Section 1.5, the term 'industry' has been used to cover both industry groups and occupational areas. The five industries which provided the focus for this part of the research were:

- Clerical/Administrative
- Hairdressing
- Hospitality
- Information Technology
- Metals

More detailed information on the field research conducted for Part 2 of the project is provided in the case study site reports included as Appendix 3.

Common themes and variations evident across industries are identified briefly in Section 3.2. These issues and the lessons which have emerged from the piloting process are then considered further in Chapter 4: Implications of this Research Project.

3.2 Issues

The field research conducted in Part 2 of this project has enabled the identification of eleven issues. These items are identified below, then considered further in the next chapter.

- *The impact of the short timeframe on the study*

As noted in the methodology section, industry syntheses and various case study reports, the intended outcomes of this project were very ambitious when the time available for the project was taken into account. Working collaboratively with industry partners during this project has also highlighted that while the key competencies present opportunities for improving workplace training practices and the training provided to trainees, these improvements will require time and opportunities for collaboration between educators working in the VET sector and industry personnel. Opportunities exist to revisit some of the sites to assess the extent to which the trialed approaches have been adopted and/or to engage in longer-term partnerships to pilot and refine tools and approaches. However, future activities would need to take account of business demands and the time required to engage in productive partnerships.

- *Lack of familiarity with the key competencies in industry*

The vast majority of industry participants had no familiarity with the key competencies. This situation has considerable implications for the successful integration of the key competencies in workplace training.

- *The influence of workplace contexts on the integration of the key competencies*

Industry contexts were a very significant factor in the response of industry participants to the notion of integrating key competencies into workplace training practices. Significant variations were evident amongst sites, both within and across industries. Small and medium sized businesses often had a very open attitude on how the key competencies could be used to improve training practices and add value to their businesses by enhancing trainee and employee skills. In some of the larger organisations, which had structured approaches to workplace training, the use of the key competencies appeared less relevant to some of the industry personnel.

- *Using the key competencies to improve workplace training*

Across all of the industries, researchers reported that opportunities exist for a focus on workplace training practices (particularly on-the-job training), which may improve

current training practices while simultaneously facilitating the integration of the key competencies.

- *The need for approaches which are useful and meaningful to workplace trainers*

The field research highlighted the need for the development of approaches which were concise, relevant and easy to use. Industry personnel will need access to professional development opportunities and resource materials which encourage the adoption or adaptation of tools and approaches which match enterprise needs and characteristics.

- *Training scenarios: facilitating the integration of generic and technical competence within workplace contexts*

Of the tools and approaches piloted, the approach which was most successful was the training scenario. Various forms of training scenario were developed including: training scenarios for integrated key competency development in the clerical and administration, metals and hairdressing industries; use of naturally occurring critical incidents as a focus for debriefing in the hospitality, hairdressing and metals industries; scenario and problem based learning approaches in the hospitality, hairdressing and metals industries. Trainer questioning techniques were also developed. The approaches trialed were developed for use in on-the-job training and/or other workplace training environments such as training nights and staff meetings. These tools suggest that key competencies may be best developed through holistic situational training approaches which provide opportunities (or contexts) which require the synthesis of specific and generic knowledge and skills. However, it was also evident that the successful use of these tools would be dependent on owner-managers and workplace trainers with the skills and preparedness to use training scenarios and make explicit reference to the key competencies.

- *Trainee/Trainer assessment tools*

Assessment tools were trialed successfully in three industries. These approaches included using the Clerical and Administrative skills competency framework as a guide for trainee appraisal or self assessment in one site; a trainer assessment/trainee task appraisal tool developed for four information technology sites; and performance review instruments for employees/trainees at two hospitality sites. These tools made the presence of the key competencies more explicit in workplace training and job performance.

- *Using mapping processes*

The key competencies were also used successfully as a strategy for identifying areas in which workplace training could be improved. At one Metals site a longer-term project has been initiated to improve safety training and in two hospitality sites two forms of mapping exercises were important in orienting training personnel to the concepts of the key competencies and demonstrating the relationship between current practices and the key competencies. Similarly, mapping activities undertaken at one hairdressing site provided the impetus for other key competency initiatives. The assessment tools trialed in the clerical and administrative and information technology industries also provided opportunities for mapping of the key competencies within specific workplace activities and trainee work activities.

- *The need to relate the key competencies to workplace contexts and tasks*

Industry participants at a number of sites emphasised the need for descriptors reflecting the key competencies in specific workplace contexts. The development of descriptors for use in the hospitality industry proved useful in advancing other aspects of the piloting process and as an initial step in the development of job specific tools such as performance review tools.

- *Marketing the key competencies by highlighting the benefits to enterprises*

Interest in the potential of the key competencies was related to a range of organisational needs and priorities. Factors identified during the study included: improving the performance of employees (trainees, other entry level employees and the existing workforce); providing a coherent and integrated framework for conceptualising, planning and implementing training (in organisations which did not have formalised approaches); adding value to the organisation by providing an edge in training and customer service (particularly evident at the hairdressing sites); encouraging more systematic approaches to analysing problem situations; applying the key competencies to priority organisational areas, such as OH&S; and improving approaches to workplace training and performance review, by clarifying the role of the owner-manager and workplace trainer. These factors should be highlighted when marketing the key competencies to business owners and managers.

- *Recognising industry and workplace differences and their impact on key competency approaches*

While similar needs and issues were identified across sites, some differences were evident. For example, the development and use of written scenarios, including sets of questions which relate to the key competencies, was particularly successful at the hairdressing sites. At the information technology sites, written tools which could be used by trainees or employees working in a self-directed manner appeared most appropriate. In contrast, hospitality industry participants emphasised the need for tools which could be used in mainly verbal approaches to training delivery. Researchers involved with the manufacturing sites suggested that adequate consideration of the key competencies would require the provision of training opportunities off-the-job and away from production demands. This research suggests that the development of tools and approaches will need to take account of these industry needs and variations.

3.3 Clerical and Administrative Skills

- *The industry context*

The outstanding feature of the five sites visited in the area of Clerical and Administrative Skills is that there is not an industry context to speak of in the usual sense. Clerical and administrative work is performed across the entire range of industries. Therefore, the sites represent five quite different industry contexts where clerical and administrative staff are employed and the focus is on the occupational skills of office work in those contexts. The table below summarises some of the differences.

Profile of the Clerical and Administrative Skills Research Sites

Site	Size of workforce	Are there trainers at site?	Type of trainees at the site	Training culture
Small screen-printing company	20	No	Clerical-Administrative Skills Traineeship	Strong people skills and quality orientation. Training builds on off-site formal component.
Small radiography practice	10	No	Clerical-Administrative Skills Traineeship	Owner manager, strong training orientation. Training builds on off-site formal component.
Local Telecom reseller	20	No	Small Business Traineeship	Training informal and not well-developed. Business is changing rapidly.
Large Federal government department	>1000	Yes	Enterprise training system	Formal training framework, marked emphasis on employee development and HRD.
Large pharmaceutical manufacturer	>1000	Yes	Clerical-Administrative Skills Traineeship	Formal training exists in the organisation but training for the trainee is ad hoc and unstructured.

Otherwise, the main differences among the sites is their size. Three were small businesses employing from ten to twenty people, and two large enterprises, one a pharmaceutical manufacturer and the other, a Commonwealth Government department, each with a very large workforce. The contrast could not have been greater. The large organisations have very well developed formal training provision, whereas the small sites rely upon building on the formal off-site training provided by TAFE or business colleges, where it is available. In one case (the Telecom reseller), the trainee was employed on a Small Business Traineeship and received no off-the-job formal training, relying on the workplace to develop skills.

The small businesses face the usual constraints of their kind, but they also had a very open attitude to how the key competencies could improve their on-the-job training and help their business. Two had a strong training orientation and saw the project as an opportunity to improve their training strategy. By contrast, the larger firms had in place systems of performance appraisal and staff development, and perhaps saw the key competencies as less immediately relevant.

- *Development of approaches*

The small businesses appeared to have more scope for the development of on-the-job training. In the radiography and printing firms, the trainees were expected to develop high levels of skill and take an increasingly responsible part in the business. The approach taken was therefore to emphasise to the owner managers that the key competencies could 'add value' to the trainers' skills. The small businesses invited a more holistic and situational approach so the training scenario was a natural choice. This approach therefore had several steps:

- the identification of key work situations which challenge the competencies of the trainees;
- the selection of one of these situations for scenario development; and
- the development and trialing of suitable materials for this scenario.

In the case of the small business lacking a training strategy, a different approach was taken, using the competency framework as a guide for the trainees self-assessment of their performance. The feedback led to the development of a training strategy focused on key situations. In the large organisations, there appeared to be more limited scope for developing approaches that would encourage the development of the key competencies. The very comprehensiveness of the TOD (Taxation Officer development) scheme leaves little room for improvising key competency approaches, and the trainee in the large pharmaceutical manufacturer seemed to lack opportunities for situation-based training existing in the small firms. A Trainee Appraisal instrument designed to raise the awareness of the trainee of the key competencies was therefore chosen for piloting.

Matching key competency approaches with Clerical and Administrative Skills sites

Site	Approach
Small screen-printing company	Training scenarios for key competency development
Small radiography practice	Training scenarios for key competency development
Local Telecom reseller	Self-assessment guide for small business trainees Training scenarios for key competency development
Large Federal government department	No approach
Large pharmaceutical manufacturer	The Trainee Task Appraisal

- *Lessons from the pilots*

In the two small firms with a training orientation, the training scenario approach was well received. In two other sites, the use of trainee appraisal or self-assessment was seen more as a means of raising awareness of the key competencies in the trainee's workplace and their job performance.

The 'training scenario' and the key competencies in small business

The manager of the printing firm helped to develop a training scenario for 'dealing with the unclear customer', which entailed defining the levels of communication and problem-solving, which were also related to specific competency standards in the Clerical Skills Training Plan. The business depends on office staff responding effectively to queries about one-off jobs and this means trainees must quickly learn to interpret and respond strategically to phone enquiries. To do so, they need to combine standard telephone skills, specific knowledge of the firm's business and interpretive skills, bringing these together in a set of strategies for responding to customers. The key competencies represent the generic components of this learning.

In the radiography practice, the trainee experiences a sequence of learning situations designed to help them learn the 'whole business' and become self-managing and eventually able to manage the practice in one of its three locations. Problem-solving, organisational ability and communication skills are again combined with specific knowledge of relevant medical terminology and typing skills to effectively carry out the task of 'typing up radiography reports'. The training scenario 'Learning Medical Terminology' illustrates how problem solving is integral to the learning this task as well as learning the whole business, including working in the practice with others.

Experience of the radiography and screen printing firms clearly pointed to some conclusions about how the key competencies can be developed through a holistic situational training approach such as the training scenario. It suggested that where trainees are expected to develop high levels of skill, not only in specific office tasks, but in general understanding of the firm's business, that the key competencies are a vital component of their developing vocational competence. The training scenario helps to focus, formalise and highlight both the specific skills and knowledge and the generic components (such as problem solving) that are combined through on-the-job learning.

In both cases, the development of key competencies occurs in combination with applying specific procedures in a challenging workplace situation. The situation requires a combination of knowledge and skills, specific and generic. The main lesson here is that a holistic understanding of the development of key competencies in context is required. Where the trainees work is limited or routine, there are less opportunities for such situational learning, and correspondingly, it might be expected there will be less development of the key competencies.

Strategy for situational learning using competency standards

The Clerical and Administrative Skills training plan provide a valuable basis for approaching the development of the situational learning of the training scenario. In order to identify a work situation suitable for a training scenario, it is first necessary to identify the main work situations that make up the firm's business and then define what elements of competence are relevant to each situation (typing, accounts, telephone protocol and so on).The situation can then also be analysed for the set or sets of key competencies that seem to be implied in the elements of competency. In this way, the situations provide a focus for linking the specific elements of competence and the relevant key competencies. The Clerical and Administrative Skills framework provides a very clear framework for this activity, since the key competencies have been one basis for classifying the main groups of competencies.

Compared to the exercise of mapping key competencies on to industry standards (described earlier in Chapter Two of the report), this approach is a more concrete way of visualising how the key competencies enter into workplace training. The links are not abstract but situtational and contextual. In reality, it is only through a particular workplace context that such links can be made.

This approach was particularly helpful to the small businesses who had no structured training strategy apart from the Training Plan provided for the Clerical and Administrative traineeship. The workplace visits to all three small businesses needed to begin by developing analysis of workplace learning situations and a training strategy based on situational learning. Examples of these 'overview' plans can be found in the case studies. These strategies mapped both key competencies and Clerical and Administrative Skills on to the key workplace situations.

Self-assessment and trainee appraisal

In some situations there was not scope enough for situational learning of the training scenario. This is particularly the case where the supervisor believes that the key competencies are embedded where the trainee's work is limited in scope and routine rather than challenging. There is a possibility in routine situations that the trainee will not be gaining the kind of experiences needed to develop all of the competencies expected in the Clerical and Administrative Skills traineeship, for example, where most time is spent word-processing or photocopying. Other ways of encouraging the development of the key competencies therefore had to be found.

One way to stimulate greater awareness of both the key competencies and the development of specific clerical and administrative competencies was the self-assessment guide. In the case of the Telecom reseller, this served two purposes. First, it could assist the trainee to form some picture of her learning both in terms of the competency framework and secondly, in terms of the key competencies that had been mapped on to each of these competency areas. The Training Plan for the traineeship had emphasised that the trainee should suggests that the trainee should be 'involved in the assessment process and be asked to make a judgement as to whether the competency being assessed has been achieved'. The further value of the process was that it could focus attention on gaps in the training and stimulate thinking about what on the job or other learning was needed to be provided.

Similarly, in the large pharmaceutical manufacturer, the trainee had less exposure to a wide range of work activities and there were limited opportunities to develop the training scenario for example, through a task like organising a meeting.

The trainee task appraisal tool was selected as an approach which would enable the trainee to continue to work independently and to raise her awareness of the key competencies. Many of the key competencies did not apply to the work being done by the trainee and when they are the required level of performance is very low. The supervisor found that the tool was of questionable relevance and too formal, and felt that as a framework for guiding the trainees, their Training Achievement Record book sufficed.

- *Implications*

The universal importance of office work in small businesses like those of the three sites suggests that there is a large group of owner-managers employing trainees who would benefit from workshops on structuring workplace learning to 'add value' to the skills of their trainees. Planning for situational learning is particularly indicated as a means of stimulating the development of the key competencies. This need is less evident in large organisations.

3.4 Information Technology Industry

- *The industry context*

As is evident from the table below the four sites varied greatly. They ranged from a small repair business of six permanent employees where no formal training occurs to a large organisation with 150 employees where a strong corporate culture exists.

Site	Size of workforce	Are there trainers at site?	Focus for Pilot Process	Training culture
Small electronic sales & repair business	6	No	Trainee Task Appraisal tool	No existing training practices. Self-directed learning encouraged.
Large pharmaceutical sales company	150	No	-	Staff encouraged to attend external training courses. Company performance review system in place.
Medium-sized computer repair centre	43	Yes	-	Strong training focus exists with mentoring and appraisal systems in place.
Employment & training services provider (corporate services division)	11	Yes	-	Training culture exists, with provision of various training and development opportunities to staff.

It is important to note that two of the trainees approached for the pilot are Bradfield College students who spend four days per week at college and the fifth on site. In contrast to the other two trainees who are permanent employees, they are in their late teens and have very little work experience. Although the level of work undertaken by the trainees differs, the task based nature of the work (whereby the trainee is set or instructed and then left to work independently on tasks) was well suited to the Trainee Task Appraisal tool which was piloted at each of the information technology sites.

- *Development of approaches*

The instruments used in this trial were a task-appraisal tool which attempted to map trainees' use of key competencies in undertaking real work tasks and a trainee assessment sheet on which trainers were asked to rank the trainee on the key competencies (see Attachment to Site Report 5 in Appendix 3).

The reason for developing and trialing this particular instrument was an attempt to test the hypothesis that the greater the level of self awareness of the trainee, and by implication the more explicit is the key competency, the easier it is for the trainee to develop the competency and use it as a way of undertaking and structuring work. Such a view has been the basis of the considerable work on experiential education (e.g. Boud,

Kolb) and on the place of reflective practice in learning from experience (e.g. Schön, Argyris, Usher, Watkins).

The aim of the instrument was to encourage the trainees to tease out the competencies embedded in particular tasks they undertake in their work and to reflect on which of these competencies they used in this and similar tasks.

The structure of the instrument incorporated a three part process:

- making the key competencies explicit- Helping the trainee to see explicitly the key competencies involved in undertaking the particular task
- reflection on experience- Trainees reflecting on which of the key competencies were actually used in the task
- planning to use the key competencies- Trainees considering which of the key competencies would be used in the new task they were about to undertake.

Trainees were asked to select each week for four weeks, a key task they undertook in their work (most worked one day a week) describe the task and then indicate using the instrument, the key competencies they felt they would need to undertake the task.

After they completed the task they were asked to indicate which of the key competencies they had actually used. Trainees then discussed this with the trainer. They were then asked to think about which of the key competencies were needed to complete the next key task the following week.

The aim was to examine whether this cycle of analysis, reflection and planning would help the trainee become aware of the key competencies, how they might be used in a variety of tasks, and whether it led to an increase in the level of the key competencies in the trainees. Awareness and use was inferred from the written comments of the trainees on the instrument. To measure any increase in level, the trainer was asked to rank the performance of the trainees in the key competencies in a general way at the beginning of the trial period using the trainee assessment sheet and to assess them at the end to the trail period. Of course the notion of possession of the key competencies in a general sense is a problematic one. Most of the literature suggests that the use of these competencies is highly contextualised. However in assessing the trainee it was clear from interviews with the trainer that the trainers were thinking about the level of the key competency in the context of the work undertaken in the particular firm and more particularly the type of work that a trainee would be expected to undertake. So in that sense it was contextualised.

The trainee and trainer were interviewed at the beginning of the trial and at the end of the trial. The aim of the first interview was to explain the trial and to ask trainees the extent to which they felt they possessed the key competencies. The second interview attempted to establish whether the trainee felt more confident in their ability to undertake their work tasks and in their own ability to use the key competencies in a range of tasks.

- *Lessons from the trial*

The work diary and task appraisal sheet were trialed in four firms. In two of the firms the results suggest that when the key competencies are made explicit, when the trainee reflects on the key competencies and uses them for planning their work that they do lead to some improvement in understanding of the key competencies and in performance of tasks which incorporate the key competencies. In one firm the trainee was assessed as improving his performance in a large number of the key competencies. In another the trainee felt he became aware of his own capacities as defined by the key competencies and had improved in his performance in tasks which incorporated the key competencies—however this improvement was not confirmed by the trainer. An important point is that both the trainees in these firms were mature individuals who had obviously had the opportunity to develop the key competencies in a number of situations prior to the current traineeships.

In two other firms the use of the work diary led to no improvement in performance. In the latter cases there was no evidence of self awareness being developed by the trainees in using this instrument. In both cases the trainee spent only one day a week at the worksite, had low levels of literacy and found difficulty understanding the notion of the key competencies and how they were embedded in work. In these two cases the trainees were young and had little if any previous work experience. In one case the trialing was undertaken by the trainee in association with another employee who helped to interpret and fill in the work sheets.

While there are a number of possible explanations for the differences between the two groups, it is difficult to avoid the conclusion that the extent of work experience is a key factor in the development of key competencies. The younger trainees who had probably no more than 20 days of actual experience in work seemed to be in the position where they simply could not conceptualise the key competencies independently of the tasks they were required to undertake. It suggests that actual immersion in the workplace over substantial periods of time are a prerequisite to being able to be reflective about the nature of the work being undertaken.

In all the cases where the trainer was able to comment on the instruments and implicitly on the value of making the key competencies explicit, they were generally enthusiastic. This again reinforces the view that experience is a prerequisite to being able to perceive the importance of generic competencies.

It is not possible to suggest any firm conclusions on the basis of the evidence collected in this industry. It is obvious that more work needs to be done over a far longer time frame, probably no less that a year before we could reach any firm conclusions about the role of self awareness and explicitness in the ability of trainees to develop key competencies. It would be important to contrast older trainees with work experience with younger trainees and to compare young trainees who undertake on-and off-the-job programs with those who are engaged in authentic work on a full time basis.

3.5 Hairdressing - Retail Industry

- *The industry context*

The table below identifies the five salons involved in the research. Due to a range of factors, only four have trialed approaches or used the key competencies specifically. Whilst the salons were generally homogenous, variations did occur in relation to the market targeted and the culture of the workplace in terms of atmosphere and services provided.

Profile of the five hairdressing research sites

Site	Size (No. of employees)	Are there training personnel at the site ?	Focus for pilot process	Training Culture
Suburban speciality salon (A)	12	No	Customer service focus using scenario/problem based approach.	Strong training culture. Weekly training sessions after hours by manager. Workplace training relates to inhouse training program and occasional vendor training.
Suburban franchise salon	10	No	Basin skills focus through scenario/problem based approach.	Strong training culture. Weekly training sessions within salon by manager/franchise representative and occasional vendor training.
City franchise salon	12	Yes	Staff performance appraisal.	Strong training culture. Structured weekly training sessions conducted by state training manager. Additional courses at interstate training academy. Occasional vendor training.
Suburban speciality salon (B)	10	No	Telephone skills focus using scenario/problem based approach.	Strong training culture. Consultant developed curricula used in salon training conducted by manager.
Suburban speciality salon (C)	7	Yes	Salon problem solving focus using scenario/problem based approach.	Strong training culture. Owner/manager involved in TAFE industry advisory committee and conducts training for other salons.

The suggestions from salon owners/managers reflected a common need for:

- descriptors reflecting the key competencies in salon contexts.
- the need for an information pack on what the key competencies are about
- the role of the key competencies to be clarified in relation to existing training programs.

- *Development of approaches*

During the research process attempts were made to provide materials that catered for the particular needs of each site as well as trialing approaches that were common to a number of sites. The initial visit in all cases was used to familiarise the researchers with the particular contexts, and brief the participants. At all sites there was no understanding of the key competencies. When shown the information sheets, all sites noted the need for contextualised descriptors so the key competencies could be understood in the salon.

The critical incident/debriefing activities trialed at two of the sites were modelled on a similar tool developed for the hospitality sites. The scenario/problem based approaches were variously developed by salon staff, the researchers (with reference to PROBLARC) and TAFE (from recently developed TAFE curricula). The table below provides a summary of the approaches used at the various sites.

Matching the Key Competency Approaches with Hairdressing Sites

Site	Approach
Suburban speciality salon (A)	Using the key competencies as points of reference within scenario/problem based activities focussing on customer service. Key competencies used to analyse actual problems that had occurred in the salon's operations.
Suburban franchise salon	Key competencies used to analyse actual problems that had occurred in the salon's operations. Integrated assessment event focussing on basin skills using the key competencies as focal points for debriefing.
City franchise salon	Using the key competencies as the basis of a staff appraisal mechanism.
Suburban speciality salon (B)	Using scenarios to contextualise the role of key competencies in hairdressing.
Suburban speciality salon (C)	Using scenarios to contextualise the role of key competencies in hairdressing.

- *Lessons from piloting at hairdressing salons*

Whilst the approaches trialed were well received, the demands of the business and the short timeframe of the project meant that the full potential of the key competencies could not be explored. At all five sites it took time for staff to familiarise themselves with the key competencies and gain an understanding of how they may be relevant to the salon's operations. The trialling reinforced the need for simple tools that were equally applicable to apprentices and seniors alike. The following text boxes summarise the various approaches used at the sites.

Using mapping activities at two sites

At one site a consultant developed curricula used in house was analysed for the presence of the key competencies. This showed some presence but also some clear gaps. These gaps provided an impetus for redesigning some training activities to more explicitly address the key competencies.

Using Critical Incident Tools to integrate the key competencies

Two of the salons were provided with a critical incident exercise initially developed for use at the hospitality research sites (see Site Report 14). Both salons commented on the effectiveness of this approach in raising awareness of the key competencies. At both salons the key competencies were used as focal points for the debriefing discussions that followed a particular incident in training and or work. These tools served varying purposes. The key competencies were seen to add a new dimension to inhouse training activities. It was also noted that they raised the staff's awareness and self esteem by acknowledging skills that they possessed, and by promoting the self concept of being multi skilled. At one site this approach may lead to a staff self appraisal mechanism due to the self assessment aspect of critical incident debriefing.

The scenario approach appeared to be the more popular amongst the salons and involved structuring training events around naturally occurring features of salon operations.

Using scenarios to integrate and contextualise the key competencies

The use of scenario/problem based activities were developed for three of the sites, focussing on different operational functions and served varying purposes. The key competencies provided staff with an opportunity to consider workplace problems from a different perspective. They were able to frame solutions to the problems using the key competencies as focal points. They were considered important in making aspects of the job clearer, and supported a more thorough analysis of problems and the issues related to them.

3.6 Hospitality Industry

- *The industry context*

As shown in the table below, the five Hospitality sites were very varied when factors such as nature of the business, organisational size and training culture were taken into account. Similarly, the organisations were involved in a range of entry level training activities, which led to varying areas of focus, rather than a focus on one traineeship area.

Profile of the Five Hospitality Industry Research Sites

Site	Size (No. of employees)	Are there training personnel at the site?	Type of trainees/ focus for the piloting process	Training culture
Medium-sized hotel (A)	30	No	Hospitality Operations (Food and Beverage) Traineeship	Strong training culture, developed over a long period. Workplace learning is not part of an accredited or documented curriculum. Training is mainly verbal and is not accredited.
International hotel	800	Yes	Entry level on-the-job training for food and beverage attendants	Organisation has structured approaches to internally developed on-the-job and on-site training. Performance review processes exist for all staff.
Small restaurant	4	No	Hospitality Operations (Kitchen) Traineeship	New restaurant. Owner is committed to training. All training is unstructured and verbal.
Medium-sized hotel (B)	30	No	Entry level training for food and beverage attendants	Company does not have a strong training culture but this may change in future. Training is on-the-job, unstructured and verbal.
Large catering company	800 (in NSW)	Yes	Strategies for integrating the key competencies in entry level work based training (on and-off -he-ob)	Company does not have a strong training culture. Some accredited training offered, using external 'off the shelf' products. Most training is informal or short internal work-based training activities.

While considerable variations were evident, there were a number of similarities in the comments and observations provided by industry participants in the piloting process. Participants commented on the need for:

- an increased focus on on-the-job training (as distinct from work-based training conducted off-the-job);
- externally produced materials on the integration of the key competencies in on-the-job training using approaches and language relevant to owners/managers, workplace trainers and training personnel; and
- approaches which took account of the essentially verbal nature of on-the-job training in the hospitality industry.

- *Development of approaches*

During the research process an effort was made to customise approaches to particular workplace contexts while also looking for opportunities to trial and validate particular (or similar) approaches across sites. Prior to the development of any approaches the initial visit to all sites was completed. The initial visit demonstrated that there was little (three sites) or no (two sites) familiarity with the key competencies at the sites. When shown the information sheets, industry contacts in the majority of sites also questioned the relevance of the key competencies to their workplace and highlighted the need for contextualised information. Discussions of the three approaches outlined on the project information sheets suggested that two of the three approaches were aligned with

training approaches used at the five sites. These approaches were: Using Key Competencies to Organise Training and Working with Training Scenarios.

The table below overviews the development and matching of approaches with sites. The mapping activities completed at the international hotel and large catering company were aligned with the approach of using key competencies to organise training. Similarly, activities related to the use of the key competencies to cluster training activities and review performance (used at the Medium-sized Hotels A and B and Small Restaurant) are aligned with this approach. Problem based learning and the use of critical incidents are aligned with the use of training scenarios.

During development of the tools a range of resources were used to supplement and extend on the suggestions made by industry personnel. These resources included information on the use of critical incidents (Brookfield, 1992; Woolsley, 1986; Killen & McKee, 1983), problem based learning (Problarc, 1994) and the use of questioning techniques (Billett, 1995). Use was also made of Hospitality-related training materials and materials from other key competency pilot projects. This material included Gillespie & Lee (1995), Western Australian Secondary Education Authority (1995); Australian Committee on Training Curriculum (1991) and NSW Department of Industrial Relations, Training and Further Education (DIRETFE) publications.

Processes used to trial various approaches are outlined in the case study reports (refer Appendix 3).

Matching of Key Competency Approaches with Hospitality Industry Sites

Site	Approach
Medium-sized hotel (A)	Using Key Competencies to Cluster Training Activities: Hospitality Operations Traineeship (Food and Beverage) Using Critical Incidents in On-the-Job Training Problem Based Learning
International hotel	Mapping of key competencies at element level to identify relationships between existing approaches to on-the-job for entry level training food and beverage attendants in one of the hotel's restaurants and review the existing Staff Performance Review form. Using Key Competencies to Cluster Training Activities: Hospitality Operations Traineeship (Food and Beverage) Using Critical Incidents in On-the-Job Training Problem Based Learning
Small restaurant	Using Key Competencies to Cluster Training Activities and Review Performance: Hospitality Operations Traineeship (Kitchen) Using Critical Incidents in On-the-job Training Problem Based Learning
Medium-sized hotel (B)	Using Key Competencies to Improve Training and Job Performance: Hospitality Operations (Food and Beverage) Using Critical Incidents in On-the Job Training Problem Based Learning
Large catering company	Mapping of the presence of the key competencies in 15 training modules Using Critical Incidents in On-the-Job Training Problem Based Learning

- *Lessons from piloting in the hospitality industry*

As shown from the examples below, the approaches used were generally well received. However, at all five sites it took time for the industry participants to gain an understanding of the potential and possibilities which the key competencies may offer. The time period available for the process was also frustratingly short for both the researcher and for participants at three sites (International Hotel, Medium-sized Hotel B and Large Catering Company). These aspects of the piloting process also have implications for the provision of professional development on the key competencies to industry personnel with training roles.

The two figures below highlight the value of mapping exercises and exercises which relate the key competencies to industry and job-specific examples as an initial step in action research and professional development processes. These approaches were important in engaging industry personnel in the piloting process and as a strategy for highlighting

areas in which existing workplace training could be supplemented and improved through the use of the key competencies.

Benefits of using mapping activities at two sites

Exercises which resulted in the mapping of current on-the-job training activities were completed at both the International Hotel and Large Catering Company. At both sites completion of these activities was important in facilitating the engagement of the Training Managers in the process of relating the key competencies to their current activities in a practical way.

At the Large Catering Company information on eleven accredited modules and four internal modules was obtained via interview and document analysis, then mapped against the eight key competencies. The resulting one page sheet provides the Training Manager and workplace trainers with 'at a glance' information on the presence of the key competencies for communication to trainees. It also confirmed 'gut feelings' of a need to increase the focus on key competencies 5, 7 and 8 in entry level training within the organisation.

Extensive documentation exists for the on-the-job training, assessment and internal certification of entry level food and beverage attendants within the International Hotel. A report was prepared which mapped the presence key competencies at element level (refer to Information Sheet 2 in Appendix 1) across five key training documents. The results revealed a strong correlation between the key competencies 1, 2, 3 and 6 and significantly less coverage of key competencies 4 and 5. Similarly, there was a lower coverage of the evaluative elements of each of the key competencies than for other elements. It is proposed that this information will be integrated into a review of existing on-the-job training documentation. It also highlighted areas in which off-the-job work based training may be used to complement on-the-job training, using approaches such as problem based learning and reflective practices.

Using Key Competencies to Cluster Training Activities and Review Job Performance

Tools were developed during piloting which contextualised the key competencies for two hospitality operations traineeships: food and beverage and kitchenhand. Copies of these tools are provided in the case study reports. These tools served several purposes. In those sites where the problem-based learning and critical incident approaches were used, the sheets provided necessary background information on the relationship between the eight key competencies and specific job-related tasks. In the majority of sites, this step was important in progressing other piloting activities. At the Small Restaurant and Medium-sized Hotel B the usefulness of key competencies to cluster training activities was extended in the second action research cycle. Both of these sites used only verbal approaches in training delivery and the provision of feedback to employees (including trainees). The owner and Licensee at these sites were interested in developing a performance review tool from the initial sheets. The result was a set of tools for use by the trainee kitchenhand and owner at the Small Restaurant and by entry level employees and the Licensee at Medium-sized Hotel B which would then be used as the basis for a discussion of the trainee or employee's performance. Both industry participants were positive about the introduction of an approach which integrated the key competencies and was considered concise, easy to use and time efficient.

The use of training scenarios involving a structured approach to naturally occurring critical incidents was well accepted in the majority of hospitality sites (see figure below). However, as outlined in the case study reports, this approach was not considered appropriate at the International Hotel and questions also remain about the extent to which workplace trainers will explicitly use the language of the key competencies when using this approach.

Training Scenarios: Using Critical Incidents in On-the-Job Training

Initial discussions with four Hospitality industry sites led to the development of a one page critical incident tool, which explains the rationale for using the tool, provides hints for use and overviews the suggested process (see Site Report 14). Industry personnel at four sites indicated that this tool was useful to them and relevant to their existing informal (and sometimes implicit) practices. Those involved in piloting also indicated that they would use the tool in various ways. At Medium-sized Hotel A, this tool extends on practices already used at monthly staff meetings and in 1:1 coaching of trainees, while at Medium-sized Hotel B it was considered most appropriate as a tool used by the Licensee with all employees to debrief on major incidents. At the Small Restaurant, the tool provided a more structured and explicit approach for the owner/chef to facilitate the learning process of the trainee kitchenhand. The tool provided the basis for discussion of incidents such as using new stock before old stock and the preparation of insufficient vegetables. It also provided a structure for praising and reinforcing the positive contribution of the trainee to a successful night's trading. At the Large Catering Company this tool was incorporated into the company train the trainer program and feedback on the use of the tool was essentially positive. The Training Manager commented that the tool reinforced and made the use of effective informal practices more explicit by showing workplace trainers that training involves more than demonstrations and mini-lectures.

The use of problem based learning approaches which integrated the key competencies was also considered a viable approach in the Hospitality industry. However, preliminary feedback suggests that further work is required to produce exemplars of the use of this approach which could then be adopted or adapted within specific workplace contexts. Also, piloting activities suggest that this type of training activity will only be appropriate for occupational areas involving a range of tasks.

Training Scenarios: Problem Based Learning as an Approach for Integrating Key Competencies

A brief tool was prepared which provided background information on the approach, a suggested process and hints for trainers (see Site Report 14). This approach was already in use at Medium-sized Hotel A, where trainee journals demonstrated that the Licensee had used the process to engage a trainee in the process of introducing a punters' club and in preparing a question and answer booklet on items commonly asked by new employees. At the International Hotel use of work-based off-the-job problem based learning activities has been identified as a possible strategy for addressing some of gaps evident when the key competencies were used to map current approaches to on-the-job entry level training for food and beverage attendants. Similar approaches are already used by the hotel in management training.

Finally, during piloting activities at the International Hotel the key competencies were used effectively to review existing approaches to the assessment and reporting of staff performance.

Using the Key Competencies to Review an Existing Staff Performance Review Form

The existing Staff Performance Review form used at the International Hotel is about to be revised. This form is used to review the performance of all line employees, after three months' employment, then annually. The key competencies provided a framework to evaluate the current form and identify areas of improvement. This process led to the identification of eight suggestions for improvement, which included the clustering of related activities using some of the key competencies as the heading, such as clustering 'Appearance' and 'Attendance and Punctuality' using the key competency Planning and Organising Activities and broadening of some of the current headings, such as 'Initiative' to cover other aspects of the key competency Solving Problems.

3.7 Metals Industry

- *The industry context*

As shown in the table below, there was considerable variation across the four sites. These variations involved size, work organisation, training culture and product type. Consequently, the range of workplace training needs varied considerably and extended beyond entry level. All four have trialed approaches or used the key competencies specifically.

Profile of the five metals industry research sites

Site	Size (No. of employees)	Are there training personnel at the site ?	Focus for pilot process	Training Culture
Medium size fabrication workshop	12	No	Marking out and cutting using questioning techniques.	No training culture. Apprentice training based on 'monkey see, monkey do'.
Large electrical equipment manufacturer	10	No	Component insertion using questioning techniques, and dispatch using a critical incident approach.	Training culture being developed. Strong induction program. Site accredited as provider of modified soldering program. On-the-job training mainly unstructured.
Large manufacturing company	250	Yes	OH&S using a mapping approach.	Strong training culture. Current restructuring based on national industry competency standards. Formalised training being introduced.
Large manufacturing company	115	Yes	Use of key competencies to enrich roles of safety and quality in workplace standards.	Developed training culture. Workplace reforms have been based on quality circles, value added management, and self managing work teams.

The suggestions from workplace representatives reflected a common need for:

- simple descriptors reflecting the key competencies in metals industry workplaces.
- the need for an information pack on what the key competencies are about
- the role of the key competencies to be clarified in relation to existing training programs.

- *Development of approaches*

During the research process attempts were made to provide materials that catered for the particular needs of each site as well as trialing approaches that were common to a number of sites. The initial visit in all cases was used to familiarise the researchers with the particular contexts, and brief the participants. At all sites there was no understanding of the key competencies. When shown the information sheets, all sites noted the need for contextualised descriptors so the key competencies could be understood in the workplace.

The critical incident/debriefing activities trialed at one of the sites was modelled on a similar tool developed for the hospitality sites. The questioning techniques for mentored delivery were a modified version of an approach developed by Stephen Billett from the Centre for Skill Formation Research and Development at Griffith University (Billett, 1995). Workplace staff assisted with the drafting of questions. The table below provides a summary of the approaches used at the various sites.

Matching the Key Competency Approaches with Metals workplaces

Site	Approach
Medium size fabrication workshop	Developing conceptual knowledge as an underpinning element of vocational expertise and key competency performance.
Large electrical equipment manufacturer	Developing conceptual knowledge as an underpinning element of vocational expertise and key competency performance. Using critical incident approach as a debriefing tool for workplace events.
Large manufacturing company	Mapping OH&S curricula for key competencies in order to identify new training strategies.
Large manufacturing company	Using key competencies to enrich the roles of safety and quality in workplace standards.

- *Lessons from piloting at metals workplaces*

It is clear that considerable professional development for workplace trainers is required to familiarise them with the key competencies and how they may be utilised. Another issue is the need for training time outside the hours of production to provide these opportunities. Workplace resistance to change was also a feature, where workers felt that they were doing their jobs well enough already. Any information campaign will also need to stress the link between the key competencies and existing/future workplace practice.

Using mapping activities

Key competencies whose descriptors generally most closely reflected the interview data on OH&S were 'collecting, analysing and organising information', 'communicating ideas and information', and 'solving problems'. Other key competencies were also significant for OH&S but not to the same extent. These results draw attention to some central issues in OH&S.

Using Questioning techniques

The questioning techniques were used on the basis that developing the key competencies involves understanding the underlying features of the context (Lohrey 1995). The questions were aimed at testing the depth of conceptual knowledge possessed by the workers, and to see if the workers new why they were doing what they were doing. Two of the sites used this approach, where they were run by the supervisors.

Using Critical Incident Tools to integrate the key competencies

One of the sites were provided with a critical incident exercise similar to the one developed for use at the hospitality research sites. It was noted that the approach raised awareness of the key competencies and gave workers an opportunity to consider their work from a different perspective. It was also felt that using the key competencies as a form of checklist was a thorough way of analysing problem situations.

Chapter Four

Implications of This Research Project

4.1 Introduction

There are various findings arising out of this research project. The main findings relate to and raise further questions about the following topics:

- the nature of key competencies;
- language, literacy and numeracy issues in workplace training and their relationship to the key competencies;
- the role of key competencies in training curricula;
- factors affecting current workplace training for key competencies;
- recommended approaches for training in the key competencies;
- professional development needs in relation to key competencies;
- assessing and reporting of the key competencies
- the need for further research

Each of these is discussed in turn in the succeeding sections.

4.2 The Nature of Key Competencies

The relationship between relatively specific work skills (elements of competence) and generic skills (key competencies) is not well understood. In particular, it is not well understood that when significant work activities are considered they typically feature both specific work skills and key competencies (usually more than one) as well as aspects of the particular work context. Thus, work contexts integrate specific skills and key competencies. There are many cases of this in the products of this research project. For example, the critical incident scenarios developed in hairdressing all centre on some significant workplace incident in which a competent response integrates both a range of specific skills and various key competencies.

Why is this relatively simple point so little understood? There are, no doubt, various reasons. One reason is a prevailing myth that key competencies are free floating components of work that can be described and taught in isolation. On this view, key competencies take on a life of their own and people simply have to learn transfer them to new situations. Another reason for the lack of understanding of the key competencies

is the propensity to favour specific skills descriptions when analysing work. This reliance on very narrow descriptions of specific skills makes it seem an 'objective' fact that such skills are independent of the key competencies. However, as this research project repeatedly found, specific skills are deployed in a context which typically changes somewhat from client to client, from order to order, from case to case. The requirement that skilled work take into account changing context is, on its own, usually enough to bring the key competencies into play. Thus work is seldom as narrow as task-based competency standards might suggest. Time and again in this research we found that any significant unit of work activity can be seen as embodying simultaneously both specific skills and several of the key competencies.

Thus the key competencies provide a good basis for viewing work more holistically. As a general principle, if it is found that particular units of work can be described without involving the key competencies, then the work units are probably being described too narrowly to be very useful.

Since clusters of the key competencies appear to underpin any significant unit of workplace performance, it follows that the key competencies are best not treated in isolation from one another in the workplace. This suggests that one way of linking education and the workplace via key competencies would be to view the development of the key competencies as becoming gradually more integrated and holistic as young people move through schooling. By the time that they are ready to move into workplaces the idea that sound performance in very many of life's situations centres on deployment of suitable combinations of key competencies could facilitate students' transition to work.

The above points also suggest that key competencies should be thought of more broadly than just in terms of school and work. They represent a basis for lifelong learning in all kinds of life situations. Rather than being thought of as discrete skills that people learn to transfer, the key competencies should be seen as learnt capacities to handle an increasing variety of diverse situations. Thus transfer becomes more a growth in confidence and adaptability as learners experience ever more success in their deployment of the key competencies to a range of situations. To put it another way, perhaps it is not so much the key competencies that transfer, as growing understanding of how to deal with different contexts.

One reason why key competencies should be seen more broadly than their role in the workplace, is that they are not all equally applicable in all jobs. Gonczi et al. (1995) found that for trainees and apprentices, there was significant variation between occupations in terms of which key competencies were prominent in

workplace performance. The present research project focused on workers at levels beyond trainee and apprentice, hence it could be expected that a more complete range of the key competencies would figure in the work. However, this project also found that there is significant variation between occupations and industry sectors in terms of which key competencies are prominent in workplace performance. This suggests that it might be useful to tailor specific versions of the key competencies for use in particular industries. For example, the researcher who worked with the hospitality industry (Food and Beverage, Kitchenhands) found that the perceived relevance of the key competencies (in decreasing order of importance) was nos. 4, 2, 7, 6, 5, 1, 3, 8. It was also found in this case that the key competency descriptors were generally more relevant to Food and Beverage positions than to Kitchenhand positions. This reflected the fact that the former involves greater scope for interaction with customers and work colleagues as well as a broader range of duties. It was also apparent in the hospitality industry that the more evaluative key competency descriptors were seen as more relevant in those workplaces where a formalised performance review process was in operation.

The production of specific versions of the key competencies for use in particular industries might also serve to discourage undesirable atomistic and mechanistic approaches to the key competencies. The researchers on this project found that the holistic nature of the key competencies became apparent when attempts were made to contextualise the descriptors to particular workplaces. For example, the third descriptor of Communicating Ideas and Information ('respond to the social and cultural context of the communication') links with the second descriptor of Working with Others and In Teams ('identify different roles and perspectives when working with others') as well as with Cultural Understandings.

Finally in this section, it is appropriate to offer some comments on the specific form and wording of the key competencies that has been adopted for use in Australia. The researchers in this project worked with the explications of the eight key competencies as set out in Ministry of Education and Youth Affairs (NSW) (1994), *Working Document Draft 4b*. As was the finding by Gonczi et al. (1995), the researchers in this project found repeatedly that people in the workplace view the wording of the key competencies as somewhat technical and forbidding. However, discussion with the researcher typically led fairly quickly to the recognition that some of the key competencies were indeed crucial to effective workplace performance.

The research for this project also led the researchers to ask questions about the adequacy of some of the key competency descriptors in *Working Document Draft 4b*. For instance starting up and safely operating a complex machine in a manufacturing plant appeared to the researcher to involve clear aspects of planning and organising. This was reflected in the workplace documentation describing this particular job role. However, the descriptors for the planning and organising key competency in *Working Document Draft 4b* were nor particularly applicable, being more appropriate for higher ASF levels. Likewise, the cultural understanding key competency needs further consideration. As currently portrayed in its descriptors, cultural understanding lacks appropriate workplace connections. For example, the workplace is itself an important culture, but this is not apparent in the descriptors. In this project, we repeatedly found people tending to view the descriptors for this key competency as a bureaucratically decided and imposed set of requirements which they resented. If the key competencies are to really connect general education and the workplace, this key competency needs to be re-examined with the cultures of workplaces in mind.

4.3 Language, Literacy and Numeracy Issues

Some of the research in this project raised questions about the relationship of the key competencies and language, literacy and numeracy learning that seem, so far, to have been little explored. The incorporation of key competencies in workplace training is closely paralleled by difficult issues of how LLN can be integrated in workplace learning. Compared to the kind of LLN knowledge and skills required in job performance (for example, reading safety warnings), the key competencies are very general, even vague. Yet they often include the same dimension of learning: reading safety warnings is communicating ideas and information, if it is not, then 'communicating' is a limited skill. Similarly, workplace numeracy is 'using mathematical ideas'. Current policy approaches have tended to separate LLN and the key competencies, a position which needs to be reversed. This is also a practical issue for assessors in the workplace who will be expected to manage these related learning domains.

4.4 The Role of Key Competencies in Training Curricula

There is a common assumption that if National Competency Standards embody the key competencies explicitly (or perhaps even implicitly), then this situation will carry over automatically into curriculum modules, workplace training, etc. This view was not substantiated by this research, eg. the Civil Contractors Federation example (discussed

in Chapter 2). Hence there is a need to make the key competencies explicit in training activities. The following is a proposal for a checklist for ensuring that the key competencies are made explicit in training activities. The checklist envisages that the key competencies be considered at every stage: curriculum design, delivery and assessment, and reporting. They need to be 'present' or looked for, from the design of standards through to workplace learning on the job. The checklist in many ways mirrors the various "points of intervention" proposed by the combined VET sector key competency projects of NSW, Victoria and South Australia. Both proposals emphasise the multiple approaches that will be required to ensure that the key competencies become a feature of vocational education. Such a checklist would include a consideration of:

Standards

[ ] Are key competencies explicit in national industry competency standards, either in generic industry competencies (eg TABMA) or explicit as the Mayer key competencies?

Training Plan

[ ] Are key competencies specified in the training plan?

[ ] Are key competencies used as organising principles for common units in modules?

Curriculum Modules

[ ] Are key competencies integrated in learning outcomes in curriculum documentation for workplace training?

[ ] Are the key competencies explicitly related to specific elements of workplace competence?

Practice

[ ] Are key competencies highlighted by trainers in on-the-job workplace training situations as a component of learning and expertise? (ie how well the job is done)

Credentialing and Reporting

[ ] In reporting and credentialling are key competencies, or closely related generic competencies, assessed and reported?

4.5 Factors Affecting Current Workplace Training for Key Competencies

The results of this research project largely confirmed the findings of Gonczi et al (1995) that the five variables of training culture, nature of the trainee's work, size of the firm,

the trainer's understanding of the learning / training process, and trainee characteristics have a significant impact on the nature of training for the key competencies within and across industries. In line with this, it was found that small firms may sometimes be more open to holistic training situations than large. This is more likely to be so where work is challenging and multiskilled, rather than routine and narrow, and also more likely where the emphasis is on achieving self-managing trainees who can deliver standards of quality and service. Another factor which was influential in the development of tools and approaches for Part 2 of this project was the characteristic of training delivery. For example, practices used in the Hospitality industry primarily involved verbal communication and observation.

4.6 Recommended Approaches for Training in the Key Competencies

Field research for this project was undertaken within the context of a familiarity with the current state of knowledge and research on the key competencies. As outlined in Section 1.4, this focused on the work of Rumsey (1995), Stevenson (1994, 1995), the Petra Project (Gonczi et al, 1995), Collins, Brown and Duguid (1989) and Lohrey (1995). The researchers also considered the applicability of the seven working assumptions which were developed for the NSW VET sector pilot project (see Section 1.5). Having applied these models, principles and assumptions while researching the integration of the key competencies in the workplace, the results of this project support the use of the following approaches:

- Adopt an holistic and integrative training orientation. This will encourage key competency awareness. An atomistic training orientation will discourage key competency awareness.
- Emphasise that the 'situation' (or context) is crucial.
- Use the key competencies as a vehicle for enriching training. It will encourage a more integrated, systematic and strategic approach.
- Analyse the workplace and identify situations that have a potential for including key competencies to improve work performance. Answering the phone can be good customer relations but it can also be communicating and problem solving of a high order. The key competencies take different forms in each workplace. It is important that general descriptions be contextualised.
- Following Stevenson's model, key competencies are essential for the development of expertise, but in combination with specific occupational knowledge and skill. It would seem that the key competencies have not been emphasised enough in traditional vocational education and training.

- The key competencies should be used to link on- and off-the-job training. In the same way as they are central to linking specific and generic within a work context, they also enable the application of off-the-job training to particular workplace contexts.
- The key competencies should be seen as important for all of the workforce in an enterprise, not just school leavers/apprentices/trainees.
- Based on this research project, methods that appear to work well include critical incident scenarios, problem-based learning, and trainer and trainee assessment tools which integrate the key competencies. Mapping activities and the development of contextualised descriptors were also useful in relating the key competencies to workplace training activities and in identifying areas in which the key competencies could be used to improve current practices.

4.7 Key Competencies as a Vehicle for Learning

The current research also highlighted the need for approaches to the key competencies which maximised opportunities for integrating learning contexts (i.e. in the workplace whether on- or off-the-job, or off-the-job in an educational institution). While on-the-job learning may be most appropriate for situational learning which integrates generic and technical skills, field research in the manufacturing and hospitality industries suggests that this location may not always be conducive to the types of learning events which will encourage learning transfer and the development of key competencies. These findings suggest that trainers, educators and owners/managerss will need to consider the options presented in the table below and determine which type or combinations of learning will most effectively facilitate:

- self assessment;
- heightened awareness through reflection;
- explicit connections between workplace tasks and the key competencies;
- opportunities for learning as well as assessment ;
- integrated approaches to thinking and action;
- part of a new conception of workplace competence and training;
- links to challenging work situations.

Workplace Learning			
on-the-job learning	**off-the-job on-site**	**off-the-job formal vocational education**	**informal learning**
• learning from a situation • community of practice context • combines specific learning with generic competencies to answer challenge of the situation • self guided by others	• specific workplace procedures • structured context-specific learning • extension, reinforcement, consolidation, remediation, reflection eg. performance appraisal	• teaches specific occupational skills without context • teaches dev't of generic skills • reflection on on-the-job experience to draw out the generic & specific occ. skills • capacity for key competency dev't in initiated group	• other sources: home, friends, lunch room, pub • reinforcement

4.8 Professional Development Needs in Relation to Key Competencies

Acceptance of the premise that key competencies should be central to training in all workplaces has major professional development implications. Groups whose professional development needs should be considered include: ITAB personnel; curriculum developers; workplace trainers and assessors; training managers; and business owners and managers.

The present study supports the findings of both Rumsey (1995) and Gonczi et al (1995) that both targeted promotional strategies and professional development activities will be needed to overcome the current lack of familiarity with the key competencies in industry. The findings from Part 1 of this project suggest that priority areas for professional development are guidelines and information provision indicating how and when a key competency is deemed to be "present" in training curricula; and strategies for incorporating the key competencies in workplace training and assessment in an integrative way. Further examination of examples of good practice, such as the TABMA Enterprise Training Program in Wholesaling (discussed in Chapter 2), may assist this process.

The research process and products developed as a result of Part 2 of the project also provide models and materials which may form the basis of successful professional development initiatives. The figure below provides an overview which could act as a foundation for professional development programs for industry personnel with workplace training roles.

A possible approach to professional development on using the key competencies in workplace training

Session 1: What are the key competencies? How/why were they developed? Contextualising the key competencies. Benefits of using the key competencies: for the trainee, the trainer and the workplace.
Session 2: Options and possibilities for using the key competencies to improve workplace training (using exemplars from Appendix 3 of this report and elsewhere, possibly presented in a workbook).
Session 3: Workshop or self directed activity with access to a mentor, in which participants select and adopt/adapt or develop tools and approaches for trialing in their workplace.
Session 4: Debrief following trialing. Show and tell on approaches trialed. Lessons learnt and identification of possible future activity.

The proposed program could be delivered face-to-face, in fleximode or via self-directed learning using a workbook. Similarly, face-to-face and fleximode sessions could be targeted to particular industries, to workplaces of a particular size (eg. small to medium businesses), or could target particular approaches, such as training scenarios or assessment tools. Vocational trainers generally face the greatest challenge in teaching for the transfer of key competencies, as the strategies required fall outside the existing frameworks provided by the assessor and workplace trainers competency standards.

4.9 Assessing and Reporting of the Key Competencies

As was pointed out in Chapter 2, most participants in this project were against the assessment of the key competencies separately from vocational outcomes. This was mainly because separate assessment of the key competencies was seen as an unnecessary additional burden/cost. It was also pointed out that the key competencies are more meaningful when integrated with industry specific competencies. So work-based assessment events always involve much more than a single key competency. In fact several key competencies are likely to be simultaneously embedded, together with more specific competencies, in any significant unit of work.

However, it was suggested that some descriptive comment on the development of key competencies might well be incorporated into existing reporting arrangements. By making the key competencies a more integrated part of assessment documentation provided for employers and trainees, such as Training Record Books, they would be made more conscious of the importance of the key competencies. It was suggested that this might help to combat the atomistic 'tick and flick' mentality that too often characterises the use of such documents. Overall, it seems that industry would support this so long as it did not make on-the-job training more complicated by requiring separate assessment and reporting on key competencies. This proposal for incorporating

some descriptive comment on the development of key competencies into existing reporting arrangements can be seen to support and complement various of the recommendations contained in Sections 4.4, 4.6 and 4.7 above.

4.10 Implications for Research on the Key Competencies

Five implications for future research on the key competencies have been identified as a result of this project:

- Participatory action research has great potential for developing understanding of key competencies in workplace training.
- Research should emphasise inquiry in workplaces to study and understand workplace trainers' problems and dilemmas and this should be fed back into the policy process.
- Given that we know industry, size and work organisation are important determinants of the character and extent of training (McIntyre et al, 1995), more attention should be given to understanding how small and medium enterprises structure their training in the workplace.
- It is especially important to further investigate the informal workplace training practices that our research suggests might be effective in developing key competencies in on-the-job training. This will be critical in correcting the perceptions of small and medium businesses who believe that many of the training reform initiatives over-emphasise formal training and accredited curriculum.
- Future research should examine links between off-the-job formal training and on-the-job training for evidence of ways 'value' is added to the trainees' skills when key competencies are used as a vehicle to link on- and off-the-job training.

References[1]

Alverno College Faculty. (1992). *Liberal Learning at Alverno College.* Alverno Productions.

Assessment Centre for Vocational Education. (1995). *Integrated Assessment Strategies for the AVTS Accommodation Services Certificate.* Sydney: NSW TAFE Commission.

Australian Committee on Training Curriculum (1994). *User's Guide to Course Design for Competency-based Curriculum.* Second Edition. ACTRAC Products Ltd.

Australian Committee on Training Curriculum. (1991). *The Black Book. Hospitality Training Resources. (Short Form Curricula and Competency Profiles).*

Australian Local Government Training Board. (1995). *Competency Standards in Local Government. How to Access, Use and Review Them.*

Australian Taxation Office. (1994). *Taxation Officer Development: 1, 2, 3. A Gilide for TOD 1, 2, 3 Participants.*

Baxter-Magolda. (1993). *Convergence of relational and impersonal knowing in young adults epistemological development.* Annual conference of the American Educational Research Association, Atlanta, Georgia, April.

Billet, S. (1995). *Developing conceptual knowledge in the workplace.* Brisbane: Centre for Skill Formation Research and Development, Faculty of Education, Griffith University.

Bradfield College. (1994a). *Employer Resource Manual.* Sydney: NSW TAFE Commission and the NSW Department of School Education.

Bradfield College. (1994b). *Industry Training Handbook. Microcomputing.* Sydney: NSW TAFE Commission and the NSW Department of School Education.

Bradfield College. (1994c). *Student Manual.* Sydney: NSW TAFE Commission and the NSW Department of School Education.

Brookfield, S. (1992). Uncovering Assumptions: The Key to Reflective Practice. *Adult Learning,* 3 (4), 13-14.

Brown, J.S., Collins, A. and Duguid, P. (1989). Situated Cognition and the Culture of Learning, *Educational Researcher,* 18, 32–42.

Chaiklin, S. and Lave, J. (eds.). (1993). *Understanding practice: perspectives on activity and context.* Cambridge: Cambridge University Press.

Chen, S.E., Cowdroy, R.M., Kingsland, A.J. and Ostwald, M.J. (eds) (1994). *Reflections on Problem Based Learning.* Sydney: Australian PBL Network.

Chi, M., Glaser, R. and Farr, M. (1988). *The nature of expertise.* Hillsdale, N.J.: Erlbaum.

[1] References included reports, journal articles, discussion papers and training materials. Full referencing details were unavailable for many of the items listed.

Collins, A., Brown, S.S. and Newman, S.E. (1989). 'Cognitive apprenticeships: teaching the crafts of reading, writing and mathematics' in Resnick, L.B. (ed), *Knowledge, Learning and Instruction, Essays in Honour of Robert Glaser*. Hillsdale, J.N.: Erlbaum and Associates, 453–94.

Department of Industrial Relations, Employment, Training and Further Education. (1995b). *Vocational Training Order. Training Plan. Hospitality Operations Traineeship.*

Department of Industrial Relations, Employment, Training and Further Education. *Training Achievement Record. Hospitality Operations Traineeship -Kitchen/Accommodation.*

Fitzpatrick, H. and Hoban, M. (1994). From Standards and Key Competencies to Curriculum: First-hand Experience. *Training Agenda*. 2 (2), 12–15.

Gillespie, P. and Lee, B. (1995). *Key Competency Training and Recognition Service Pilot Project. Final Report. Stage 1.* Canberra: Canberra Institute of Technology.

Gonczi, A. (1994). *The false war: Competency based education and its critics.* Professional Curriculum Design Conference, Sydney: NSW TAFE Commission. Curriculum Design Conference. Sydney. October.

Gonczi, A., Curtain, R., Hager, P., Hallard, A. and Harrison, J. (1995). *Key Competencies in On-the-Job Training. A Report.* Sydney: School of Adult Education, University Technology, Sydney and NSW Department of Industrial Relations, Employment, Training and Further Education.

Grant, P. (1995). Incorporating Key Competencies into TAFE Curriculum. *Training Agenda*, 2, 12–15.

Hager P. (1990). Vocational Education/General Education - A False Dichotomy?, *Studies in Continuing Education*, 12, 1, 13–23.

Hager P. (1992). 'Teaching and assessment of higher level competencies - The Alverno approach', in G. Scott (ed.) *Defining, Developing and Assessing Higher Order Competencies in the Professions*, Faculty of Education UTS Monograph Series, 33–40.

Hager P. (1994). Is There A Cogent Philosophical Argument Against Competency Standards?, *Australian Journal of Education*, 38, 1, 3–18.

Kearney, P. (1991). *Training through enterprise. a practical introduction using enterprise briefs.* Hobart: Artemis Publishing Consultants.

Kemmis, S. and McTaggart, R. (1984). *The action research planner.* Burwood Victoria: Deakin University.

Kemmis, S. and McTaggart, R. (1988). *The action research reader* (Third ed.). Burwood Victoria: Deakin University.

Killen, R., McKee, A., Macleod, G. and Spindler, L. (1983). *Critical incidents in TAFE teaching. An approach to teacher decision-making.* Newcastle: Newcastle CAE.

Kinsman, M. (1995). *Key competencies in vocational training - an overview.* Paper presented at the National Training Board Globeal Competencies Conference. Sydney. March.

Lave, J. (1988) *Cognition in practice: mind, mathematics and culture in everyday life.* Cambridge: Cambridge University Press.

Lave, J. and Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Series on learning in doing: social, cognitive and computational perspectives. R. Pea and J.S. Brown, (ed.), Cambridge University Press.

Lave, J. (1990). The culture of acquisition and the practice of understanding. In Stigler, J.W., Shweder, R.A. and Herdt, G. (eds)*Cultural Psychology.* Cambridge: Cambridge University Press, 259–86.

Lohrey, A. (1995). *A Report on Transferability in Relation to the Key Competencies.* Sydney: Centre for Work Place Communication and Culture, University of Technology, Sydney.

Mayer, E. (Chair) (1992). *Putting General Education to Work: The Key Competencies Report.* Report of the Committee to advise the Australian Education Council and Ministers of Vocational Education Employment and Training on employment-related Key Competencies for postcompulsory education ad training. Canberra: Australian Government Publishing Service.

McCurry, D. (1995). *Assessment and Reporting of Key Competencies. Questions and Options.* Paper for the ACACA National Meeting on 28-29 July 1995.

McLeish, A. (1995). *Key Competencies in Business and Industry.* Paper presented at National Training Board Global Competencies Conference, Sydney, March.

Ministry of Education and Youth Affairs (NSW) Working Draft 4b, Key Competencies Project, October 1994.

NSW TAFE Commission. (1995). *Principles of Good Practice. Guidelines for Implementation and Definitions for Work Based Learning Programs in TAFE NSW.* Sydney: NSW TAFE Commission.

NSW TAFE Commission. Manufacturing Training Division. (1994). *Engineering Production Certificate Reference Guide.*

NSW TAFE Commission. Metal and Engineering National Curriculum Project. (1994). *Engineering Production Certificate Module Reference Manual.*

Pea, R. (1987). Socialising the knowledge transfer problem, *International Journal of Educational Research,* 11, 6.

Resnick, L.B. (1987). Education and learning to Think. Washington, DC: National Academy Press.

Rogoff, B. (1990). *Apprenticeship in thinking - cognitive development in social context.* New York: Oxford Press.

Rumsey, D. (1995). *Key Competencies in Industry Standards.* The National Training Board Ltd.

Scribner, S. (1992). Reflections on models. *The Quarterly Newsletter of the Laboratory of Comparative Human Cognition*, 12, 2.

Stanton, J. (1995). *Business, Industry and Key Competencies.* A report of a project conducted by the National Industry Education Forum and funded by the Commonwealth Government.

Stasz, C. et al. (1995). *Generic skills and attitudes in the workplace: case studies of technical work.* Santa Monica: NRCVE, University of California, Berkeley.

Stevenson, J. (1986a, 1986b). Adaptability: Theoretical Considerations, and Adaptability: Experimental Studies. *Journal of Structural Learning*. 9, 107-117 and 9, 118 -139.

Stevenson, J. (1991). The teaching of adaptability in vocational education. In G. Evans (ed.), *Learning and Teaching Cognitive Skills.* Hawthorn: Australian Council for Educational Research, 124 - 143.

Stevenson, J. (1994). (ed). *Cognition at work.* Adelaide: National Centre for Vocational Education Research Ltd.

Stevenson, J. (1995). *The Metamorphosis of the Construction of Competence.* Inaugural professorial lecture. Brisbane: Griffith University Faculty of Education.

Stevenson, J. and McKavanagh, C. (1992). Skill formation for the workplace. In M.Poole (ed). *Education and Work.* Hawthorn: Australian Council for Educational Research.

Western Australian Secondary Education Authority. (1995). *Recognition of workbased learning.* Perth: Western Australian Secondary Education Authority.

Western Metropolitan College of TAFE. (1995). *Workstart Traineeship.*

Winchester, J. (1995). *Towards a Coherent Approach to the Mayer Key Competencies in Work, Education and Training.* Paper presented at the Third International Conference on Post-compulsory Education and Training. Brisbane, November.

Woolsey, L.K. (1986). The Critical Incident Technique: An Innovative Qualitative Method of Research. *Canadian Journal of Counselling*. 20, 4, 242-254.

Yates G. and Chandler M. (1991). The Cognitive Psychology of Knowledge: Basic Research Findings and Educational Implications, *Australian Journal of Education*, 35(2), 131-53.

Appendix 1

Project Information Papers

This appendix contains three information sheets. These sheets were used as part of the action research process to inform industry participants about the key competencies and the research project. The three sheets are:

- Information Paper 1: Information about the Project
- Information Paper 2: Information about the Key Competencies
- Information Paper 3: Training Approaches Using Key Competencies

Piloting Key Competencies in the Workplace

Information Paper 1
Information about the Project

In September 1992 the Commonwealth sponsored Mayer Committee submitted its final report entitled The Key Competencies: Putting General Education to Work. The report proposed a set of seven generic key competencies that young people need for effective participation in the emerging forms of work and work organisation.

The key competencies focus on the capacity to apply knowledge and skills in an integrated way in work situations. They are considered generic because they apply to work generally rather than being specific to work in particular occupations or industries. This characteristic means that the key competencies are not only essential for effective participation in work but are essential for effective participation in further education and in adult life more generally.

The current Commonwealth funded Key Competencies Program is providing almost $20 million over the three years 1993-96 to support the development, trialing and evaluation of the key competencies in Australia's general and vocational education and training systems. The Commonwealth has allocated $4 million dollars to New South Wales for piloting the Key Competencies in the general and vocational education sectors. The pilot has brought together a number of authorities who are undertaking projects in their respective areas. TAFE and the Department of Training and Education Co-ordination (DTEC) are involved in Strand 3 of the pilot that covers the post compulsory vocational education and training sectors. DTEC is responsible for the on-the-job vocational training component of the pilot.

This part of the project is looking at on-the-job training. Your workplace is one of five the project team are looking at in your industry. In each case, a member of the project team will work with whoever is responsible for on-the-job training. This training may be in relation to a TAFE course, a traineeship or apprenticeship, and / or an internal training program. In each case, the aim is to consider different approaches to incorporating the key competencies into the delivery, assessment and reporting of on-the-job training.

The members of the project team do not have the answers. One of the outcomes of this research is to document the different ways each workplace addresses the issue of key competencies. Some material will be provided to you that will set out different ways to approach the key competencies in on-the-job training, but whether and how you use this material is up to you and the needs of your organisation and industry.

A mutually agreed set of modules or learning outcomes will then be worked with as examples. As these examples are considered, the project team member will act as a professional touchstone, to discuss issues related to the approach that you adopt, and how they relate to the delivery, assessment and reporting of the key competencies in your workplace.

We have set aside a maximum of five days per project over the next three months during which this work will take place. Regular reports from the other case studies will be provided to aid the development of your understanding of the key competencies. The project team member will document the curriculum development process and develop a model based on your experience.

Piloting Key Competencies in the Workplace

Information Paper 2
Information about the Key Competencies

This is one of three information sheets for the project. The first provides background information on the project and the third suggests strategies for including the key competencies in workplace training .

The aim of this sheet is to provides information on the key competencies themselves.

The report of the Mayer Committee in 1992 entitled *The Key Competencies: Putting General Education to Work* (1992) proposed a set of seven generic key competencies that young people need for effective participation in the emerging forms of work and work organisation.

The report proposed a set of seven generic key competencies that young people need for effective participation in the emerging forms of work and work organisation.

The report also included principles to provide for nationally consistent assessment and reporting of achievement of the key competencies. Ministers recommended that further work continue to refine the list of key competencies and that their feasibility be tested as part of the wider reform of the education and training system.

The key competencies identified by the Mayer Committee are:

- Collecting, Analysing and Organising Information
- Communicating Ideas and Information
- Planning and Organising Activities
- **Working with Others and in Teams**
- Using Mathematical Ideas and Techniques
- Solving Problems
- Using Technology

In July 1993 Ministers for Education and Training agreed to amend the list of key competencies to include a competency for Cultural Understandings. This additional competency has been included within the current NSW pilots.

The key competencies focus on the capacity to apply knowledge and skills in an integrated way in work situations. They are considered generic because they apply to work generally rather than being specific to work in particular occupations or industries.

This characteristic means that the key competencies are not only essential for effective participation in work but are essential for effective participation in further education and in adult life more generally.

The Commonwealth has allocated $4 million dollars to New South Wales for piloting the Key Competencies in the general and vocational education sectors.

Over the page there is more detail on the key competencies.

KEY COMPETENCIES

1 Collecting, analysing and organising information

1	locate and gather information from a range of sources relative to the task
2	analyse information and organise it into a logical order
3	present information for a particular purpose using a method appropriate to the needs of the audience
4	evaluate the quality, validity and relevance of information
5	evaluate sources of and methods used to obtain information

2 Communicating ideas and information
using both verbal and nonverbal modes of communication

1	participate effectively in the two-way communication process
2	identify purpose and audience
3	respond to the social and cultural context of the communication
4	choose an appropriate form and style
5	communciate clearly, concisely and coherently
6	give and respond to the feedback during the context of the communication
7	check accuracy and appropriateness of the communication and revise where necessary

3 Planning and organising activities

1	set goals
2	respond to factors affecting priorities and determine priorities
3	establish an appropriate process to both achieve goals and meet deadlines
4	organise activities, establish time frames, implement and monitor the plan
5	evaluate planning and organising (including own performance)

4 Working with others and in teams

1	establish the purpose of objective of working with others or in a team
2	identify different roles and perspectives when working with others
3	negotiate and agree on roles and perspectives when working with others
4	takes responsibility for own performance when working with others
5	works cooperatively within a given time frame to achieve a shared objective
6	evaluate strategies and their effectiveness in achieving a shared goal

5 Using mathematical ideas and techniques

1	establishes a clear sense of purpose for using mathematical ideas and techniques
2	select and apply appropriate ideas, procedures and techniques
3	judge precision and accuracy
4	evaluate solutions
5	interpret the solution and evaluate its practical application

6 Solving problems

1	identify, clarify and frame problems
2	use a recognised strategy to draw on and adapt a range of processes to solve a problem
3	anticipate problems and plan suitable response strategies
4	evaluate outcomes and the problem solving process

7 Using technology

1	choose and use appropriate technology in a given context
2	use scientific and technological principles and practices
3	apply stated OH&S standards when using technology
4	uses knowledge, processes and skills to apply technology to a task
5	evaluates the use made of the technology

8 (Using) cultural understandings
(apply to achievement of common goals)

1	identify elements of cultural cohesion and diversity
2	recognise Australia's Aboriginal heritage, political, social, economic and cultural traditions
3	negotiate the diverse cultures in a group or organisation so as to achieve a common purpose
4	identify how individuals and groups are interdependent on others
5	interact with sensitivity, empathy and tolerance
6	demonstrate an appreciation of the rights and responsibilities of individuals, groups and organisations within a local, national and global context
7	evaluate the extent of the use made of cultural understanding in a given situation

Source document: Ministry of Education and Youth Affairs (NSW) Working Document Draft 4B, Key Competencies Project Oct. 1994

Piloting Key Competencies in the Workplace

Information Paper 3
Training Approaches Using Key Competencies

This is one of three information sheets for the project. These sheets are designed to increase participants' understanding of the key competencies and to develop strategies for workplace training that include the key competencies.

The aim of this sheet is to provides information on three ways to incorporate the key competencies in training curriculum in the workplace. These three approaches are:

- Working with Industry Standards
- Organising Training around Key Competencies
- Developing Training Scenarios

I. Working With Industry Standards

One approach to incorporating the key competencies is to start from industry standards. Key Competences can provide another way of looking at training for employment related competencies. The problem for the trainer is to identify the key competencies in particular industry standards. The solution is to take an example of training in a specific workplace contexts and look at how the key competencies can be found in the relevant industry training standard. An example can illustrate this process.

> In the Metals area, a fabrication Tradesperson is required to build part of a railway carriage in accordance with the job specification. He checks the quality of his work using the required welding tests required by industry competency standards. He also checks that he is following prescribed occupational health and safety requirements laid down for welding operations.

In this case, the industry standards relate to the **Using Technology** key competency at a basic level. There are also other competencies present such as **Planning and Organising**, seen in the way the employee looks at the work in hand.

A more advanced example from the Retail and Wholesale Industry refers to a timber-yard employee who is observing workplace standards and in doing so is developing competence in the area of **Solving Problems**:

> The employee has developed a degree of skill in managing the sawing of 'out of true' timber. He does this in a way that minimises wastage and ensures accuracy of sawn stock without excessive time being lost. Following the industry standard, he employs a number of truing up procedures, either singly or in combination. At the same time, he is aware of the increased safety problems that this work may throw at him and anticipates OH&S requirements. He says he feels he is now 'on top' of some of the harder aspects of the job.

In some cases where industry standards are being developed or reviewed, it has been possible for trainers to include references to key competencies at various points in the documentation.

II. Using Key Competencies to Organise Training

In some workplaces trainers have been able to design training curricula with the key competencies in mind from the start. The key competencies can be helpful as a way of organising a large number of training activities. They become a focus of a set of training activities.

In one approach, the activities are somewhat similar, for example, where all mathematical, estimating and calculating tasks are gathered together. Then, whenever training is done on this kind of task, the trainees are alerted to the fact that they are developing a key area of their competence as a worker.

In another approach, a large set of different sorts of activities are drawn together. For example, it may be possible to list all those training activities which relate to Planning and Organising. These could be further grouped according to their level of difficulty (how advanced they are, whether they depend on mastery of other activities and so on).

Some trainers in one industry described how they came to adopt this approach:

> We had to develop these new training manuals and it happened that we were also involved in piloting new industry standards ... from there we heard about the key competencies and so it seemed sensible to try and build them into the process ...
>
> We found that the key competencies were really quite helpful as a way to organise a whole set of training activities. Using Technology was an obvious one ... many activities were about using tools and equipment so grouped activities under that heading. We then realised that this was not the only key competency involved in these activities so others are stated where relevant.
>
> In practice, it works like this. The trainee is told the specific objective of the activity which might be learning a specific operation performed by the machine - but the trainee is also told there is a general objective to increase their knowledge and awareness of using technology in things like maintaining tools and equipment in top condition.

In this case, the trainers were looking for a way to write down the training curriculum in a way that was understood by everybody on the site. The key competencies helped them to link together activities in a more meaningful way.

III. Working With Training Scenarios

A third approach is known as the 'scenario' approach. Any training situation presents an opportunity to bring out several key competencies at once. The trainer looks for elements of an on-the-job training situation which can be linked to a key competency.

The trainer may choose a particular type of activity or on the job training incident to highlight that trainees need to be more aware of the way they work with other people. The trainer would be aiming to bring out the Working in Teams key competency.

For example, the trainer may use an incident to highlight that trainees are members of a team who need to observe others actions and 'work in' with them more. They might have to prompt a worker to anticipate what another worker is doing, or point out to a new worker that there is a 'buddy system' on the site.

At another level, the trainer might want trainees to take more responsibility for how the team is going and get them to make suggestions about such things as improving co-operation on the team.

The following is an example from one workplace of how one workplace used the training scenario:

> Some times you just have to put the trainee in the situation and let them deal with it and hopefully they learn from it. There is value in challenging them to test out what they know ...
>
> In our Driveway Attendants course we use a scenario called 'Dealing with the difficult customer'. This really tests their idea of customer service and can push them into developing several key competencies.
>
> It might be that a car drives in and out jumps someone in a terrible hurry. The trainee has a few seconds to sum up the situation. Then they really have to move smartly - see the customer's need, fill the tank, do the sale, while keeping their confidence ... Solving Problems is the obvious key competency area, but Communicating and Planning and Organising are also involved and they also have to Use Technology and perform calculations. Its a real test so we always try and de-brief it straight away.

Appendix 2

Exemplars from Curriculum Case Studies

This appendix contains the following exemplars which relate to the case studies of workplace curriculum discussed in Chapter 2. The following are provided:

- extract from the ACTRAC User's Guide to Course Design (ACTRAC, 1994), identified in the Civil Construction Industry Case Study.
- examples form the new Timber and Building Materials Association (TABMA) Enterprise Training Program: Certificate in Timber Wholesaling.

TIMBER AND HARDWARE PRODUCTS SALES SKILLS UNIT

COMPETENCY: **Demonstrate professional selling skills.**

PERFORMANCE STANDARDS	CONTENT	CONDITIONS/COMMENTS

PERFORMANCE:

5.4 Determine the needs of customers and professionally sell products that satisfy those needs

OFF-THE-JOB

- Practice professional selling skills in the areas of:-
  - Product knowledge
  - Features & benefits
  - Asking questions
  - Overcoming objections
  - Awkward customers
  - Selling on
  - Closing
  - Telephone

ON-THE-JOB

- Applying correct professional selling skills
- Watching and listening to experienced and successful sales people in their place of work and identifying the use of professional selling skills
- Being coached and able to ask questions of experienced and successful sales people

- Participants will be shown, discuss and practice in groups and individually, professional selling skills covering the following areas:-
- Acquiring relevant product knowledge
- The correct way to identify and use product Features and Benefits
- The correct technique of asking questions
- Methods of overcoming objections
- Successfully handling difficult customers
- The skill of suggesting additional items
- Using correct closing techniques

- Selling on the telephone

Appropriate videos:-

"Selling Benefits"

"Closing the Sale"

"Selling on the Telephone"

PRESENTATION:

Introduce concept needs and requirements both mental and physical of professional selling techniques and participants to practice these skills both on and off the job

ASSESSMENT:

OFF-THE-JOB:-

1. Given a list of six product Features, correctly give the corresponding Benefits.

2. Following a prepared list , correctly demonstrate by role-playing on video professional selling skills.

ON-THE-JOB:-

1. With an experienced sales assistant playing the role of an angry, rude or talkative customer, demonstrate the appropriate techniques for successfully handling these types to the satisfaction of their Supervisor/manager.

QUALITY CONTROL AND WORK PERORMANCE UNIT

COMPETENCE: 4.1 Identify the principles of quality in job performance and describe their application at the workplace

PERFORMANCE STANDARDS	CONTENT	CONDITIONS/COMMENTS
PERFORMANCE:		
4.1.1 Identify quality control principles and their application at the workplace		
OFF-THE-JOB / **ON-THE-JOB**		
• The meaning of quality: - Definitions (dictionary, other sources - see content)	• Quality products, what are they?	• A range of definitions of "quality" to include Australian Pocket Oxford Dictionary definition, and definitions such as: - "Servicing customer needs" - "Conformance with use, requirements or specifications" - "Tangible expression of human excellence"	• Access to relevant information: - Quality standards as specified by the timber industry: • National/State specific • Sector specific
• The role of quality control in the work process: - Job quality standards - Quality inspection - Quality improvement	• Quality standards specified at the workplace	• Overview of quality control and maintenance of standards at the workplace	• "Quality Assurance and Quality Control", AS1057, 1985

The key principles of quality control in work performance

- Planning the job:
  - Identifying what to do, how to do it
  - The standard of achievement required
- Organising: preparing for the job:
  - Materials, equipment required
  - Supplied materials
  - Testing of supplied material
- Doing the job:
  - Do the job, checking that each step is done correctly
  - Quality inspection: attention to detail
  - Waste control - has scrap, waste and re-work been kept to a minimum?
- Finishing the job:
  - Complete the job to the required or stated standard
  - Customer's specifications:
    - Have they been met?
  - Industry standards:
    - What are they?
    - Have they been met?
- Review the work performance:
  - Evaluate all stages of the work process
  - Can any improvements be made to achieve better job quality
- Working examples of job planning to achieve set standards
- Examples of organisation necessary for job preparation:
  - Work ticket
  - Materials, equipment
  - Acceptable quality of supplied materials
- Inspection and/or testing required at relevant stages of production at the workplace
- How quality control reduces material wastage and machine downtime
- Inspection of finished work and checking against set standards:
  - In-house standards
  - Industry standards
- Examples of gains in job quality as a result of evaluating stages of production and introducing improvements
- Basic steps in planning a job and the quality standards for the expected outcome
- Preparation of all the essentials needed to successfully complete the job
- Importance of ensuring that supplied materials meet job standards
- Importance of "doing the job right, first time round"
- Importance of eliminating scrap, waste and re-work in job production
- Costs to Company: waste, time for re-working
- Industry standards: sector specific
- Customers' "special requirements"
- Importance in meeting expected standards: Company/customer relations
- Importance in reviewing the work and checking each stage of production to determine whether improvements can be implemented
- "About the Management of Quality", AOQC, 1987
- "The Memory Jogger - A Pocket Guide of Tools for Continuous Improvement", GOAL/QPC, USA, 1988

PRESENTATION:

Trainees to receive instruction from person(s) qualified to teach quality control principles and their application at the workplace.

Case studies that clearly illustrate instances in industry before and after the introduction of quality control: benefits gained from its introduction.

ASSESSMENT:

Assessment to be based on the trainee's ability to:

1. List and describe the key principles of quality control in work performance.
2. Complete, without error, a multiple-choice exercise designed to test the trainee on the application of quality control principles at the workplace.
3. State a definition for quality.

APPENDIX A:
Australian Rules Football - Sports Traineeship : Alignment of modules with Key Competencies

Module Code	Module Title	Collecting, Analysing & Organising	Communicating Ideas and Information	Planning & Organising Activities	Working With Others & In Teams	Using Mathematical Ideas and	Solving Problems	Using Technology
Information	**Techniques**							
AFL001	Trainee Induction			x			x	
AFL002	Workplace Communication	x	x	x	x			
AFL003	Work/Personal Effectiveness		x	x				
AFL004	Writing Skills for Work	x	x					
AFL005	Job Seeking Skills and Career Planning	x	x	x	x			
AFL006	Occupational Health and Safety	x	x		x		x	
AFL007	First Aid	x	x	x	x		x	
AFL008	Business Calculations	x	x			x	x	x
AFL009	Computer Operations - Data Retrieval			x			x	x
AFL010	Keyboarding - Techniques and Operation							x
AFL011	The Football Industry	x	x		x			
AFL101	Work Environment	x			x			
AFL102	Office Equipment - Routine Tasks	x		x				x
AFL103	Office Equipment - Non Routine Tasks	x		x			x	x
AFL104	Telephone Operations		x					x
AFL105	Mail		x	x				
AFL106	Records Handling		x	x		x		
AFL107	Meetings - Organisation	x	x	x	x		x	
AFL108	Travel Arrangements	x	x	x			x	
AFL109	Spreadsheet Fundamentals			x		x	x	x
AFL110	Database Fundamentals			x		x	x	x
AFL111	Word Processing - Introduction			x			x	
AFL112	Sport and The Law	x	x	x	x		x	
AFL113	Event and Facility Management	x	x	x	x		x	
AFL114	Sports Marketing	x	x	x	x		x	
AFL201	Tractor Operation							x
AFL202	Chemical Materials Handling	x					x	x
AFL203	Garden Sites		x	x	x	x		x
AFL204	Hard Landscaping		x	x	x	x		x
AFL205	Turf Sites		x	x	x	x		x
AFL206	Recreational Turf		x	x	x	x		x

© 1994

Appendix 3

Part 2 Case Studies: Piloting Key Competencies in 22 Workplaces

This appendix contains 22 case study reports. Each report provides information on the tools and approaches piloted at the site, including exemplars. The case studies are organises as follows:

Industry	Workplace	Site No.	Page
Clerical/Administration[1]	Screen printing business	1	108
	Radiography practice	2	113
	Telecom reseller	3	117
	Large pharmaceutical company	4	126
Information Technology	Small electronic sales and repair business	5	129
	Large pharmaceutical sales company	6	136
	Medium sized computer repair centre	7	139
	Employment and training services provider	8	146
Hairdressing	Surburban specialty salon (A)	9	149
	Suburban franchise salon	10	153
	Franchised city salon	11	158
	Suburban specialty salon (B)	12	160
	Suburban specialty salon (C)	13	163
Hospitality	Medium-sized hotel (A)	14	168
	International hotel	15	179
	Small restaurant	16	182
	Medium-sized hotel (B)	17	194
	Large catering company	18	206
Metals	Medium-sized fabrication shop	19	209
	Electronic equipment manufacturer	20	213
	Large metal fabrication company	21	218
	Large manufacturing business	22	223

[1]The Clerical/Administration skills industry report provided in Section 3.3 includes references to a workplace described as 'Large federal government department'. A case study report was not developed for this site. The comprehensiveness of the training scheme at this site left little scope for piloting key competency approaches.

Screen Printing Business
Site No 1
Clerical and Administrative Skills

Context

This small specialised screen printing business employs about 20 people in the workshop and office. It produces promotion and 'industrial identification' materials such as binders, wallets and signs based on printing on plastics. The business is basically a 'jobbing' company with quotation to established customers who have specialised needs. Production runs are small and materials are ordered as needed. The owner describes the firm as an overgrown family business, but emphasises a systems approach, quality assurance and an orientation to training and employee development. Whereas the printing shop has a multicultural workforce (Chinese, Thai, Anglo and Vietnamese workers) the office is largely Anglo-Australian. The company has one current and one 'indispensable' past trainee. The workplace is not unionised, but there are informal agreements with employees and commitment to the firm is high. The office work involves answering the phone, establishing customer needs, typing up fairly full quotations and order confirmations, managing the accounts and liaising with the sales staff. Every customer enquiry 'needs interpretation'. The open plan office has seven people working closely together. The two trainees are completing a 36 week Clerical Skills traineeship, two days per week for 6 hours at TAFE. The owner manager values the formal off-the-job training and will not employ trainees in future if he is required to deliver this component on site.

Approach and rationale

The key competencies are not formally incorporated into training, though they are clearly present in the organisation of the Clerical Skills framework. The owner manager takes a problem solving approach to on-the-job training though there is also supervised practice and some mentoring. He was open to the scenario approach because it suited the demands of the jobbing nature of the business. The key competencies were mapped on to the five main areas of work in the office and four or five typical training situations were identified (see Training Strategy). On the second visit a training scenario focusing on 'Responding to an Unclear Customer Enquiry' was selected as an area for development, since the business depended on 'interpreting' the customers needs from phone enquiries. The trainee needs to learn quickly to ask the questions that will establish the nature of the customers job.

Pilot and feedback

The scenario linked four key competencies: the need for trainees to learn to solve problems (usually through observing others solving business problems in the office), communicate ideas and information and making decisions and working in teams. The trainee had already acquired a satisfactory level of phone skills so the validation of the scenario consisted in interviewing her about the value of the 'decision tree' for responding to phone calls and how this kind of work had developed the relevant key competencies. This established that responding to unclear customer enquiries requires quite a high order of problem solving and the integration of communication, planning and organising, decision-making and teamwork competence. The manager's view was that this 'decision-tree' depicted problem-solving strategies that could be applied to other parts of the business. In general, the trainee felt she had 'learned heaps' about the business.

Improvements

The 'Unclear Customer Enquiry' scenario was improved through discussion with the manager. It was not possible to trial it fully because the trainee had largely mastered the process of answering calls. The main refinement made after the second visit was specifying the extent at which the key competencies were being addressed in the training scenario. However, this was not perhaps as important as the obvious way in which several key competencies were being brought together in this activity. There is value in having the trainee identify these components in the learning after the event in a de-briefing, but the training situation is a holistic one. The manager expressed this well in his view of communication as a 'whole of life' skill not just a business skill. It is also notable that the manager felt that the scenario with its decision-tree provided him with a template for organising training for problem-solving in a similar way for other parts of the business. This confirms the value of holistic situation-based approaches to on-the-job training.

Implications

This site illustrates some of the constraints and possibilities on implementing key competencies in a dynamic and quality-oriented small businesses. First, there is little time for formalised training because the business is oriented to problem-solving in interpreting the customers needs and responding effectively to them. Second, the key competencies are meaningful to managing owners of such businesses if they can be related to holistic training situations that correspond directly to day-to-demands of the business. The owner has time for ideas about training that will help him help the trainee build on basic concepts and skills

learned off-the-job. Convinced of the importance of communication and problem-solving, he welcomed an approach to thinking through the components of the 'unclear customer enquiry' scenario and formalising the kind of knowledge of strategies the trainee needed to start responding effectively to difficult calls. Third, the value of the key competencies in this case is not their discrete application but their integration in a complex problem-solving situation. Each of the key competencies can be identified as an aspect of that situation.

Working assumptions

This case raises thoughts about the relation of generic and specific competencies. The relevant Clerical Skills modules specify performance at quite a low level (see below) compared to the kind of higher performance the manager will expect from the trainee once they can, in his eyes, manage the scenario skilfully. The question is 'how well' the trainee can manage the unclear customer, and this is defined in terms of skilfully using the 'decision-tree' to call on a range of strategies for any given problem. Later, the speed and skilfulness of customer relations will be enhanced by deeper knowledge of the business. The implication is that challenging training scenarios have more chance of bringing together a number of key competencies at a higher level than the trainee has so far developed. In this case, 'telephone operations' is a poor description for the kind of generic skill of 'problem-solving over the telephone' that will arise from this kind of training, and which could be applied in quite different situations, such as telephone counselling. Finally, once again the key competencies can be more easily highlighted in this way when there is a clear competency standards framework such as that of the Clerical Skills modules.

Attachment to Site Report 1

Training Scenario

Dealing with an Unclear Customer Enquiry

Answering telephone enquiries is very important to the operation of the whole business. The telephone receptionist will encounter several kinds of problem call. One of these is the customer that is unclear about the kind of order they may want to place with the company.

The training scenario is one where the trainee has to recognise that the caller is vague about what they want and assist them clarify their inquiry. To assist them with handling such a call, the supervisor imagines a 'decision tree' that can be described in flow chart form (see diagram). This diagram can be learned by the trainee as a means of supporting their 'strategy' for handling difficult callers.

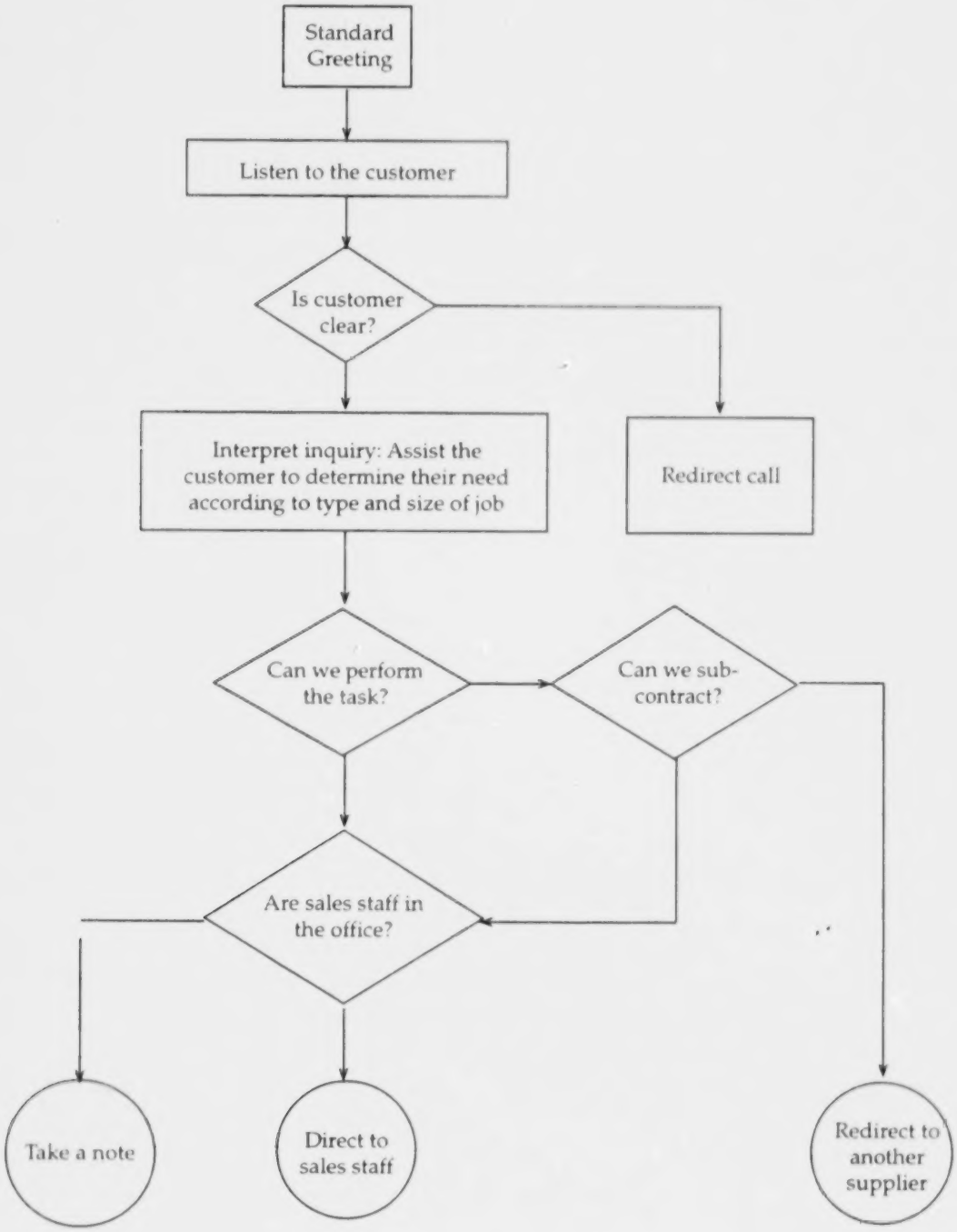
This training scenario focuses on several key competencies at the higher levels of achievement, problem solving problems and communicating ideas and information. The specific aspects of the key competencies can be pointed out to the trainee

Solving problems	• Use a recognised strategy or draw on or adapt a range of processes to solve a problem • Anticipate problems and plan suitable response strategies
Communicating ideas and information:	• Communicate clearly, concisely and coherently • Give and respond to feedback during the communication process

The supervisor may coach the trainee through this process in an 'edge of desk' mode, perhaps prompting responses. This coaching would also be used in a related situation of dealing with a hostile customer. The relevant Clerical Skills modules with the most relevant key competencies linked to these modules are:

Telephone Operations	Operate a workplace phone system Receive and respond to incoming calls Make outgoing calls	Planning and Organising Communicating Ideas Cultural Understanding
Reception Protocol	Receive visitors Respond suitably to visitors Respond to/act on inquiries	Communicating Ideas Cultural Understanding

Dealing with a customer enquiry


Standard Greeting
Listen to the customer
Is customer clear?
Interpret inquiry: Assist the customer to determine their need according to type and size of job
Redirect call
Can we perform the task?
Can we sub-contract?
Are sales staff in the office?
Take a note
Direct to sales staff
Redirect to another supplier

Radiography Practice
Site No 2
Clerical and Administrative Skills

Context

A radiography business serving a large ethnic community in Sydney's western suburbs employs reception and clerical staff at its three branches, including one current trainee and one who has completed their course. The trainees are employed partly because of their cross-cultural communication skills in assisting non-English speaking patients to prepare for the radiography. The clerical and office work also includes reception interpreting work, data entry of patient records, organising the radiologist appointments at different branches, typing up of radiographers reports from dictated notes, dealing with Medicare payments and banking, and ordering radiography supplies. The owner oversees the training, which is mainly carried out at the main office by the office manager.

The Clerical Skills traineeship has a TAFE component off the job but on-the-job training is also well organised to ensure the trainee is gradually introduced to different parts of the business, with the easiest tasks learned first. The trainee begins in reception and data entry on the computer and progresses until they have learned to type up radiologists reports from dictated notes. This is the most difficult work because of the specialist medical terminology. The radiologist has a role in explaining and helping this learning.

Approach and rationale

The approach first adopted was to identify where the key competencies were evident in the main areas of work and suggest a number of training situations that could highlight the key competencies (the Training Situations). This provided a framework for talking about training in relation to groups of the key competencies. On the second visit, one of these situations - 'Learning medical terminology' - was selected as a focus for development. Discussion with the trainee suggested a number of strategies for solving a problem of what to do when unknown terms are encountered in a radiologist's report. These were summarised on a one page sheet (see Attachment) which made links to the key competencies and this was discussed on the next visit.

Attachment to Site Report 2

Learning medical terminology

One of the hardest tasks in the office is learning to type up the radiography. You have to be able to recognise what medical terms the radiologist uses as he interprets the x-ray or ultra-sound, as well as type from dictated notes. You can begin to learn this by listening to the tape while watching someone type the report, and later try it for yourself.

When you are typing up the report and you come across a medical term you do not know, this can present a problem. The problem is more difficult when the report is needed quickly, when there is nobody to help and the office is full of noisy patients. How do you solve this kind of challenge? There are several strategies that can help you solve this problem as you learn on-the-job:

- Ask the radiographer or radiologist if they can help
- Consult the list of medical terms that is kept in the folder
- Find a sample report in the bundle sorted by parts of the body
- Look up a medical dictionary

In dealing with problems like this, you are also learning to solve problems, becoming better at planning and organising, and collecting and analysing information. These are some 'key competencies' you develop through meeting challenges in your work like solving the problem with medical terminology. You could discuss with your supervisor or office manager which strategies are best and what is the best way to learn the medical terminology quickly, for example, by having a file of old reports on hand for reference (see the example attached).

Then you could discuss how the key competencies are being learned at the same time in this training situation. The following guide may help you think about what you have learned about problem-solving and other key competencies.

Key Competency	Involving
Solving problems	• Identify clarify and frame problems • Use a recognised strategy to solve a problem
Collecting, analysing and organising information	• Analyse information and organise it logically • Present information for a particular purpose using a method appropriate to the audience
Communicating ideas and information	• Participate effectively in the two-way communication process

Piloting the Key Competencies in Workplace Training

Training Situations (Radiography Practice)-

Area of Work	Training Situation	Key Competencies
Reception Making appointments for patients and meeting and assisting patients with radiography .	Meeting patients and assisting them prepare for the radiography and explaining procedures. Assisting radiologists with cross-cultural communication with Vietnamese-speaking patients. Scenario: Patient who speaks only a European language comes to the office for an appointment	Understanding other cultures - clients from a range of backgrounds use the centre. Trainees are of Vietnamese background, speak Chinese and Vietnamese. Communicating ideas and information Solving problems
Accounts Entering and checking patient records and payments for services	Checking Medicare payments against computer records of claims, identifying mistakes and resolving them Scenario: A mistake is found where the Medicare payment is much less than the amount claimed.	Using technology Using mathematical ideas and techniques Solving problems
Stock control Checking stocks of radiography materials and ordering	Ensuring that there are adequate supplies of radiography films and other supplies. Scenario: The branch has been very busy and the trainee notices that the film supplies will be exhausted by the afternoon. What does she do?	Using technology Solving problems Planning and organising Working with others and in teams Communicating ideas and information
Preparing radiography reports Typing up the reports from dictation of radiologist, using knowledge of medical terminology	Understanding the medical terminology sufficiently to be able to transcribe the dictated notes of the radiologist and type it up as a report. Scenario: Trainee is having trouble understanding and remembering some of the medical terms used by the radiologist	Solving problems Planning and organising Working with others and in teams Communicating ideas and information

KNEE - LEFT

The bones of the knee have a normal appearance and the articular surfaces smooth have a normal joint space width. No interarticular loss or degenerative changes and other joint abnormality notice.

TIBIA LOWER - RIGHT

There is a fracture in the lower third tibial.
The fracture line has been almost completely obliterated.

RIGHT & LEFT KNEE JOINTS

There is no evidence of any trauma.
No abnormality detected in the bodies of the patellae.
The retro-patellar spaces and the meniaci joints spaces are normal.
The intercondylar notch views of the joints do not indicate any abnormality.

KNEE - RIGHT

RIGHT KNEE

There is no evidence of any trauma.
No abnormality detected in the body of the patella.
The retro-patellar space and the meniaci joint space is normal.
The intercondylar notch view of the joint does not indicate any abnormality.

LEFT HIP

The hip joint space is well preser..
margins well defined.

The hip present normal features.

No abnormality can be detected within the soft tissue.

HIP - LEFT , HIP - RIGHT (NFC)

The hip joint space is well preserved and the joint surface and margins well defined.

The hip present normal features.

No abnormality can be detected within the soft tissue.

RIGHT HIP

There is ankylosis of the right hip joint.

There is a considerable deformity of the hip joint with partial distraction of the head of the femur with well marked osteo-fibration and deformity of the acetabulum.

No history has given but the appearance would suggest there has been a previous trauma to the head of the femur.

LEFT HIP

There are signs of a very early degenerative arthropathy with increased bone density along the cortical margins of the acetabu- the femur. There does not appear to be any joint cartilage. increased bone density along the cortical margins of the acetabu- with early osteophyte reaction and slight irregularity of the head of

KNEE - LEFT , KNEE - RIGH.

antation of the anterior tibial tubercle consistent with (Osgoods).

ller in both knee joints.

BEST COPY AVAILABLE

Telecom Reseller
Site No 3
Clerical and Administrative Skills

Context

The privatisation of Telecom required it to wholesale telephone time to private companies who offer the service instead of Telstra. One such company was visited for the project. Its main business is the processing of account payments and responding to customer queries over the telephone. The company is fluid and outgrowing its premises and is still developing office systems and a training strategy. Until automation of billing is complete, trainees are employed in a lot of photocopying and filing. The company at the suggestion of the CES took on five trainees, three of whom remain. On-the- job training is provided as part of the Small Business Traineeship based on modules of the Clerical and Administrative Skills Training Plan. There is no off-the-job TAFE training component. Core, generic and enterprise specific modules are assessed in the workplace using the trainee booklet.

Approach and rationale

The manager described training as being 'very unstructured and done on the fly'. The pressure of work and cramped office space has made it hard to establish on-the-job training properly. Since the key competencies are clearly embedded in the Clerical Skills core modules, it was decided to work on developing an on-the-job training strategy by helping trainees to review their progress in terms of the Small Business Traineeship modules, which are structured in terms of the key competencies. On the first visit an experienced trainee was interviewed about her work which was assisting in debt collection, checking and updating payments on the computer database, typing up and checking responses to letters to customers. It was decided to trial a 'self assessment guide' that would (1) summarise the main learning outcomes of the Clerical Skills modules together with references to which key competencies related most closely to each module (2) engage the trainee in making judgements about what competencies had been achieved, including noting where prior learning had occurred and make them conscious of the presence of the key competencies in their learning (3) provide feedback to the supervisor about training needs that could be addressed by arranging certain training experiences on the scenario model.

Pilot

The self-assessment guide was trialed with Trainee B on the second visit in an informal interview. The form was first discussed with the manager to clarify that this process was not intended to take the place of his supervisor's assessment of the trainee, but rather as a basis for highlighting their overall learning, including the key competencies and reviewing their training experiences. In summary, the trainee was discovered to have some strengths in the communications and customer relations area, through prior work experience, but little competence in office technology except photocopying which employed her for much of the working day. She needed computing skills.

Feedback

On the third visit, the manager reviewed the completed self assessment guide and discussed some ways forward with delivery. As a further step it was decided to draw up an outline of key training situations that could be put into effect and these would indicate those key competencies that could be emphasised in this training. An example was the issue of how trainees could develop computing skills. It was seen that whereas Trainee A felt she was strong in the 'Using Technology' area, and had prior Skillshare course experience and current work experience in this area, Trainee B reported she know nothing about computing and was not confident in the area 'Using Technology' and felt she wanted to develop this key competence. The lack of a related off-the -job training component would mean that she would not acquire these skills unless they were developed on-the-job training or through a short course of some kind.

Improvements

It was apparent that any assessment of the key competencies that did not refer to the elements of performance would be largely meaningless especially when compared with the specific performance criteria of the Traineeship modules. A second version of the 'self-assessment guide' therefore could be developed that highlights the elements (NSW Working Document 4B). This case illustrates that the 'self-assessment process' is not an activity that can stand alone. It should lead to the setting up of training situations on-the-job. These would form the training strategy.

Implications

It is unlikely that dynamic small businesses will be interested in incorporating key competencies in training in the absence of an on-the-job training strategy for their trainees.

The problem here was the lack of a training needs analysis in the company. The solution was to invite trainees to review the skills they were acquiring, firstly in terms of the profile of competencies in the Traineeship, and then in terms of their achievement of levels of the KC related to the training modules. This is really a diagnostic step. By focusing attention on training needs, it is then possible to identify a number of training situations on-the-job which can be used to further develop trainees skills, including areas of the key competencies. In this case, the Clerical Skills modules provide a robust framework which makes it easy for the trainee as well as the supervisor to analyse the work situation and identify some areas of action for further training. The identification of the key competencies in the core and specific modules greatly assists this process and make it easy to highlight the key competencies as the broad areas of competence in which learning is occurring or not, as the case may be.

Working assumptions

This situation illustrates the importance and value of the trainees awareness of both specific and generic aspects of their competence at work. It is very clear that the key competencies can be more easily highlighted when there is a clear competency standards framework. Self-assessment by the trainee of their overall profile in both generic and specific terms is valuable in creating awareness of the key competencies as a dimension of learning. The self-assessment guide highlights groups of related key competencies related to specific modules. This process illustrates one kind of holistic approach to developing the key competencies - having trainees formulating for themselves their relative strengths and weaknesses, in a broad way, together with specific ideas for action.

This case suggests that there is value in considering the key competencies as the generic aspect of specific forms of competence, and that the key competencies are most meaningful to trainees when thought of in their relatedness to specific competencies for on-the-job learning. It is doubtful that the key competencies have any meaning unless contextualised in this way for trainees and supervisors.

Professional development

Small businesses such as this one would gain much from more support to developing their on-the-job training strategy. A workable training plan need not be complicated. PD could assist managers to first identify those situations which comprise the main business and where the trainee needs to develop competence. The steps to support this learning can then be stated e.g. the use of the training scenario or mentoring or coaching. In this case, the diagnostic tool of a

trainee self-assessment guide was a way to focus attention on the elements of the training plan.

Piloting the Key Competencies in the Workplace

Self-Assessment Guide for Small Business Trainees

The Eight Key Competencies

1 Collecting, analysing & organising information
2 Communicating ideas and information
3 Planning and organising activities
4 Working with others and in teams
5 Using mathematical ideas and techniques
6 Solving problems
7 Using technology
8 Using cultural understandings

This assessment guide is designed to assist the trainee to make best use of the Small Business Traineeship Training Plan. The Plan describes several sets of training modules - the core, generic and enterprise specific modules.

The Training Plan suggests that the trainee should be 'involved in the assessment process and be asked to make a judgement as to whether the competency being assessed has been achieved'. This guide is designed to help that process along. Valuable learning can come through the trainee thinking about whether they have met the performance criteria for each task. - a process of **reviewing** their learning.

This assessment guide shows how the key competencies can be included in the training process by making trainees aware that each training module corresponds to one or more key competencies. By noting these relationships, the trainee will understand that their on the job training has wider application.

The following procedure is suggested:

- The trainee should review the training booklet
- Review your learning in each module, using in this self-assessment guide
- Discuss the self-assessment with the supervisor when completed
- Arrange any follow-up training to meet an area of weakness (partial learning of a module)
- Identify any modules yet to be covered and agree on suitable training experience in this area

Self-Assessment Guide for Small Business Trainees

Part 1 - Core Modules

Module	Learning Outcomes	Key Competencies [short title]	Extent of learning Prior-Full-Part-None				Training Follow Up Needed
Workplace Communication	Gather ... convey information Give and follow instructions Participate in groups Communicate with customers	1 Information 2 Communicating 3 Working with others 2 Communicating					
Teamwork	Participate in identifying tasks Complete own tasks Assist others with tasks	4 Working with others 6 Solving problems 3 Planning					
Information Handling	Maintain records Update records	1 Information 3 Planning					
Workplace Technology	Operate equipment Identify and rectify faults	7 Using Technology 6 Solving problems					
Workplace Technology	Open file and edit information Save and exit Shut down equipment	7 Using Technology 6 Solving problems					
Workplace Organisation	Organise own work schedule	3 Planning 2 Communicating 4 Working with others					

Piloting the Key Competencies in the Workplace

Self-Assessment Guide for Small Business Trainees

Part 2 - Generic Modules

Module	Learning Outcomes	Key Competency [short title]	Extent of learning Prior-Full-Part-None				Training Follow Up Needed
Dealing with Conflict	Identify aspects of conflict at work Propose strategies for dealing with it Use communication skills	Communicating Solving problems					
Customer service	Provide information to customers Meet customer service standards Use the telephone effectively ... Deal with a customer difficulty Maintain working relationships ...	Working with others Planning and Organising					
Client-interaction	Establish a working relationship Maintain working relationships	Communicating Working in teams					
Records Handling	File documents ... access and security Identify and retrieve (paper) files	Planning and Organising					
Writing Skills for Work	Employ effective writing skills to write simple work documents	Planning and Organising Communicating					
Business Calculations	Calculate numerical information Operate numeric keypad Use electronic calculator Interpret symbols, diagrams ...	Using mathematics Using Information Using Technology					

Self-Assessment Guide for Small Business Trainees

Generic Modules (continued)

Module	Learning Outcomes	Key Competency [short title]	Extent of learning Prior-Full-Part-None				Training Follow Up Needed
Computer Data Retrieval	Use relevant OH and S practices Start a computer Retrieve, view and close a database ..... a spreadsheet ..... a word-processing file Create save and print a WP file Exit and shutdown system	Using Information Using Technology Solving Problems Communicating					
Computer Operations	Use relevant OH and S practices Demonstrate disk management skills Demonstrate/discuss I/O devices Show understanding of networks Manage electronic files	Using Information Using Technology Solving Problems Communicating					
Cash Control	Record and balance petty cash Prepare, validate banking documents	Using mathematics Using Information					
Selling Skills	Demonstrate selling skills Wrap and package	Communicating Using Information					

Piloting the Key Competencies in the Workplace

Self-Assessment Guide for Small Business Trainees

Part 3 - Enterprise Specific Modules

Module	Learning Outcomes	Key Competency [short title]	Extent of learning Prior -Full- Part-None				Training Follow Up Needed
Telephone Operations	Operate a workplace phone system Receive and respond to incoming calls Make outgoing calls	Planning Communicating Cultural Understanding					
Reception Protocol	Receive visitors Respond suitably to visitors Respond to/act on inquiries	Communicating Cultural Understanding					

Trainees Assessment of Their Learning of the Key Competencies

Key Competency	Extent of learning * Prior -Full- Part-None				Possible Training Follow Up Suggested
1 Collecting, analysing and organising information					
2 Communicating ideas and information					
3 Planning and organising activities					
4 Working with others and in teams					
5 Using mathematical ideas and techniques					
6 Solving problems					
7 Using technology					
8 Using cultural understandings					

Large Pharmaceutical Company
Site No 4
Clerical and Administrative Skills

Context

This large pharmaceutical company is involved in the manufacture and sale of pharmaceutical products and operates nationally in Australia with 500 employees. The Human Resource team, including two Training and Development personnel, oversee the implementation of the company's performance evaluation system and staff involvement in internal and external training. Trainees become involved in these processes only if they become employed on a permanent basis on completion of their traineeship year.

One or two trainees doing the Clerical Administrative Traineeship have been taken on each year since 1990. They attend the Metropolitan Business College two days per week and spend the other three days working at the company. On-the-job training is unstructured and of a supervisory nature, instruction being given when necessary. As a course requirement, trainees keep their own 'Training Achievement Record'. Supervisors offer strong support and on completing the traineeship, trainees are generally offered a permanent position where there is an opening in the company.

There is currently one trainee employed in the manufacturing division. She is supervised by the personal assistant to the director of the division. The supervisor has taken on a trainee each year and although she provides no structured on-the-job training, she has developed her role as supervisor over the past few years and involves the trainees in informal briefing and debriefing sessions and where possible, she tries to provide them with tasks which will present them with learning opportunities. As part of the orientation she provides the trainees, a list of company general competencies relevant to the clerical administration area are discussed. They include for example, teamwork, oral communication and adaptability which correspond with the key competencies. These are not used however in any other training or assessment capacity.

Approach and rationale

The Trainee Task Appraisal tool (see attachments to site no 5 report), comprising the trainer assessment and trainee sheets, was piloted. The Problem-based Learning and the Checking

My Performance/Checking Employee Performance tools were discussed at the end of the pilot as possible alternatives.

The trainee provides secretarial support to her office area, including typing, photocopying and sending faxes. She generally works independently from her own work station and is able to seek help from her supervisor if necessary. The supervisor will occasionally be able to set the trainee a task which constitutes a learning opportunity (for example, organising a meeting) but this does not occur often enough to warrant the implementation of a scenario approach. The task appraisal tool was selected as an approach which would enable the trainee to continue to work independently and to raise her awareness of the key competencies while doing so. The step which requires the trainee to go over the sheet with the supervisor and have it signed, along with the trainer assessment sheet, would ensure that the supervisor would be involved in the process by monitoring and assessing the trainee's understanding and performance of the key competencies.

Piloting and feedback

The supervisor filled out two assessment sheets, one at the start of the trial and one at the end. She discussed the task sheets with the trainee when each was completed. The researcher went through the process of filling out the task sheet with the trainee who subsequently filled out four of the sheets over the two weeks which followed.

In discussing the elements of the key competencies, it was found that many did not apply to the work being done by the trainee. With regards to the key competencies themselves although they may feature in her work, the level of performance of them required is very low. For these reasons, the supervisor found that the tool was of questionable relevance and too formal an approach. She did feel, however, that there was some merit to the tool because it made the trainee think more about the task at hand. Similarly, she felt that the clustering tool, 'Checking my performance/Checking employee performance' would also be too structured and unnecessary. She felt that as a framework for guiding the trainees, their Training Achievement Record book sufficed. The supervisor also commented on the Problem-based Learning sheet, seeing it as a useful resource for trainers, especially for those who are inexperienced.

Improvements

Because the work undertaken by the trainee is rarely of a complex nature and therefore requires the key competencies at only a very minimal level, the suitability of the tool is

questionable. However, as a tool for simply increasing the trainee's awareness of the key competencies and for making the trainee think more about their tasks, the supervisor felt that with improvements the tool could have a role. She suggested that it be made more relevant to the trainee's work and that it should be initiated by the supervisor. This way the supervisor could identify tasks, on the odd occasion, which were appropriate as learning opportunities and signal these to the trainee as being appropriate for filling out the task sheets.

Implications

This is a large organisation with a well developed training culture, but trainees only become involved in the structured on site training or assessment when the traineeship is complete. It is similar to small organisations where the supervisor has no formal qualifications as a trainer but has a training orientation which has developed as a result of their contact with trainees. The supervisor, having her own substantial workload, has little scope for setting aside time for formal training. Unlike smaller organisations however, the trainee has less exposure to a wide range of work activities and responsibilities and therefore less learning opportunities.

Small Electronic Sales and Repair Business
Site No 5
Information Technology

Context

This is a small business with six permanent employees and six regular contractors, which sells electronic equipment and provides service on point of sale. Distribution of Casio cash registers to dealers is the main line of business. A Year 11 Micro computing trainee from Bradfield College spends one day per week at this business, completing tasks as instructed by various staff. The manager who is opposed to structured on-the-job training, is in favour of self-directed learning. He was previously unaware of the key competencies and whilst acknowledging their value, felt that any instruction in them was the responsibility of the education system. The staff member most responsible for the trainee was also unaware of the key competencies and admitted to having little experience in supervising on-the-job training.

Tool or approach

The Trainee Task Appraisal approach was piloted. This consists of a Trainer Assessment Sheet - Start of Trial (Attachment 1) which is filled in at the start of the pilot and is a means of getting trainers to familiarise themselves with the key competencies and their elements whilst mapping their trainee's level of competence; a Trainer Assessment Sheet - End of Trial (Attachment 2) which is used to gauge trainee acquisition of key competencies; and the Trainee Sheet (Attachment 3) which aims at getting trainees to view and review their allocated tasks from a key competency perspective. The trainee is meant to fill in one of these sheets each time a new task is commenced and to debrief his/her responses with the training supervisor. (NB. The Trainee Sheet and the Trainer Assessment Sheets are not reproduced in full. Attachments 1, 2 and 3 include the first page or two only.)

Reason for selection

Time constraints, the size of the organisation and staff often being off site meant that an approach which could be implemented, for the most part independently of the supervisor, would be most appropriate.

It was hoped that this approach would provide the trainee and trainer with a work-related key competency mapping exercise, which would allow them to see the degree to which the key competencies were a part of work related tasks. Then having demonstrated this, the trainer might feel better informed in selecting, supervising, evaluating and reporting training tasks; and the trainee might better understand the role of generic competencies in the acquisition of on-the-job training.

Piloting

After an initial meeting with the trainer, piloting of the approach commenced. The trainee was provided with an explanation of the project and key competencies. He then proceeded to complete a Trainee Sheet (work diary) on a task that he had recently completed. At the same meeting but not in the presence of the trainee the trainer was asked to fill in the Trainers Assessment Sheet - Start of Trial. It was agreed that over the following three to four weeks the trainee would fill in as many Trainee Self Assessment sheets as possible. It was also agreed that the trainer would sign each sheet on its completion, thereby providing the trainee with an opportunity to debrief. On completion of the pilot the trainer was interviewed and he completed a Trainers Assessment Sheet - End of Trial. Unfortunately the trainee fell ill and was unable to be interviewed.

Results and issues

The task appraisal tool ie. the Trainee Sheet, was filled in for five separate tasks. However the apparent difficulties that the trainee had in understanding the key competencies and his low literacy level made it difficult to interpret his comments. Generally, it would appear that this tool has limitations when used with young, inexperienced, trainees with poor writing skills, who are engaged in relatively simple, uncomplicated, repetitious tasks which often do not feature many of the key competencies.

On the other hand the Trainer Assessment Sheets were seen by the trainer as being 'an invaluable tool'. He claims it has assisted him in focusing on training in a more coherent way; he is now more aware of the difference, yet relatedness between specific IT skills and generic work-related skills. For example in his business being able to communicate orally and in writing is critical to getting the job done, complicated telephone messages in which technical problems are being reported, often make the difference between getting a job done well or losing business all together. He sees key competencies 2,4,6,7 and 3 as being very important to the IT industry. Key competencies 5,1 and 8 are seen as less important. He intends using the

Trainer Assessment Sheets to assist him in both the recruitment and ongoing assessment of future trainees.

Piloting Key Competencies in the Workplace

Faculty of Education
School of Adult Education

Trainer Assessment Sheet - Start of Trial

Instructions: *Please complete this assessment sheet at the beginning of the trial. Consider the trainee and the work she or he does under your supervision. With this in mind look at each of the competencies listed in the table which follows and place a tick in one of the columns on the right hand side to indicate the level which best describes the trainee's performance.*

Trainer's name:_____ **Worksite:**_____ **Date:**_____

KEY
N = Not yet competent C = Competent E = Excellent NA = Not applicable

NO.	COMPETENCIES AND ELEMENTS	N	C	E	NA
1	**Collecting, analysing and organising information**				
1	locate and gather information from a range of sources relative to the task				
2	analyse information and organise it into a logical order				
3	present information for a particular purpose using a method appropriate to the needs of the audience				
4	evaluate the quality, validity and relevance of information				
5	evaluate sources of and methods used to obtain information				
2	**Communicating ideas and information**				
1	participate effectively in the two-way communication process				
2	identify purpose and audience				
3	respond to the social and cultural context of the communication				
4	choose an appropriate form and style				
5	communicate clearly, concisely and coherently				
6	give and respond to the social and cultural context of the communication				

DTEC

Piloting Key Competencies in the Workplace

UTS

Faculty of Education
School of Adult Education

Trainer Assessment Sheet - End of Trial

Instructions: *Please complete this assessment sheet at the end of the trial. Consider the trainee and the work she or he has done during the the trial. With this in mind look at each of the competencies listed in the table which follows and place a tick in one of the columns on the right hand side to indicate the level which best describes the trainee's performance.*

Trainer's name:_____ **Worksite:**_____ **Date:**_____

KEY
N = Not yet competent C = Competent E = Excellent NA = Not applicable

NO.	COMPETENCIES AND ELEMENTS	N	C	E	NA
1	**Collecting, analysing and organising information**				
1	locate and gather information from a range of sources relative to the task				
2	analyse information and organise it into a logical order				
3	present information for a particular purpose using a method appropriate to the needs of the audience				
4	evaluate the quality, validity and relevance of information				
5	evaluate sources of and methods used to obtain information				
2	**Communicating ideas and information**				
1	participate effectively in the two-way communication process				
2	identify purpose and audience				
3	respond to the social and cultural context of the communication				
4	choose an appropriate form and style				
5	communicate clearly, concisely and coherently				
6	give and respond to the social and cultural context of the communication				

BEST COPY AVAILABLE

Piloting Key Competencies in the Workplace

UTS
Faculty of Education
School of Adult Education

Trainee Sheet

Name:_____ Worksite:_____ Date:_____

Instructions: Please fill in this sheet when you are given a task to do:

BEFORE YOU DO THE TASK	AFTER YOU DO THE TASK
1. Describe the task in the space below. 2. Look at the 8 Competencies in the table that follows. In Column A tick the ones that you think you will need to do the task. 3. Now start the task and come back to this sheet when you are finished.	4. Write down how long it took to do the task. 5. Look again at the 8 Competencies and the elements. In Column B tick the ones you used to do the task and describe how you used them. 6. Using this sheet, discuss with your trainer, the degree to which the Competencies assisted you in completing this task. 7. Have your trainer sign and date the sheet. 8. Think more about how the Competencies might help you to go about your next task.

Task Number:_____ Task Description:_____

_____

_____

How long did it take you to do the task?_____

NO.	COMPETENCIES AND ELEMENTS	TICK BEFORE	TICK AFTER	DESCRIPTION
1	**Collecting, analysing and organising information**			
1	locate and gather information from a range of sources relative to the task			
2	analyse information and organise it into a logical order			
3	present information for a particular purpose using a method appropriate to the needs of the audience			
4	evaluate the quality, validity and relevance of information			
5	evaluate sources of and methods used to obtain information			
2	**Communicating ideas and information**			
1	participate effectively in the two-way communication process			
2	identify purpose and audience			
3	respond to the social and cultural context of the communication			
4	choose an appropriate form and style			
5	communicate clearly, concisely and coherently			
6	give and respond to the social and cultural context of the communication			
7	check accuracy and appropriateness of the communication and revise where necessary			

Large Pharmaceutical Sales Company
Site No 6
Information Technology

Context

This large company with a staff of one hundred and fifty deals with the sale and distribution of pharmaceuticals. There is little structured workplace training, but a commitment to training is demonstrated with staff often being sent on external courses. A sophisticated performance review system is in place and serves in part to identify training and development needs. It features a number of generic 'objectives' such as time management and health and safety which loosely relate to the key competencies. The emphasis of these is, however, to do with issues of quality, leadership and company commitment which do not relate closely to the key competencies and have less relevance at trainee level. There was no awareness of the key competencies prior to the pilot.

There is currently one Microcomputing trainee who studies four days a week at Bradfield College and spends one day a week on-site. Any on-the-job training which occurs is unstructured. The trainee is set tasks by various members of the team and is given instruction and assistance as needed. In terms of review of the trainee's performance, the Bradfield Microcomputing handbook which is retained by the trainee (and not used in a task setting capacity) is filled out by his supervisor at the site on completion of his placement.

Reason for selection

The Trainee Task Appraisal tool was seen to be appropriate for the site since it represented minimal change to current work patterns and was suitable for the nature of the trainee's work which is largely set and undertaken on a task basis. Being part of a small team of eight which is not always present, the trainee's supervision is largely in the form of briefing and debriefing sessions. This also lends itself to the task appraisal tool. Tasks are generally technical by nature and it was hoped that the tool would increase awareness of the key competencies and broaden the trainee's focus to incorporate them into his appraisal of tasks. The trainer assessment component of the tool was devised to reinforce the process by raising the trainer's awareness of the trainee's performance with regards to the key competencies and to set tasks and offer supervision accordingly.

Piloting

The trainer was asked to fill out the assessment sheet, by indicating the level of competence of the trainee in terms of each element of the key competencies, or to mark as not applicable those elements which had no relevance to the trainee's work. Due to the time constraints of the project and the trainee being at the site only once a week, it was decided that the trainee would fill out one task appraisal sheet while a young programmer (who often supervises the Bradfield trainee) who had been in the role for nine months would fill out three of the sheets over the course of the week. The programmer was briefed on the sheets and was also asked to work through a sheet with the trainee. The pilot concluded with a discussion with the programmer who was able to offer feedback from both the perspective of trainee and trainer. A second trainer assessment sheet was not completed.

Discussion

The pilot obviously suffered as a result of time constraints, however, valuable feedback was given. The programmer was partly positive, seeing the tool as having a possible role to play but in need of some fundamental changes. The trainer assessment component of the tool was thought to be critical, providing a way for trainers to assess and monitor trainees' progress and thereby assign work requiring an appropriate level of competence. The programmer noted the importance of self-direction being encouraged in the trainee and therefore felt that this type of approach to training was appropriate.

As an approach for on-going training, he felt that the task appraisal tool had limited value. He thought it could be used successfully during an orientation period but that it would become a time consuming chore done simply to get it out of the way. As was the case in the pilot, he predicted that the sheets would most often be filled out after tasks were completed thus reducing the potential benefits.

We discussed two other tools and both were well received. In particular he favoured the 'Checking Performance' tool (see Site Reports 16 and 17) noting that any approach aiming to integrate the key competencies into training would be best to use industry specific descriptors in order to be successful. With regards to the Problem-based Learning tool, (see Site Report 14) he made the point that the success of any approach depended in the first instance on the trainer's ability and that it was in a 'professional development' capacity that this tool would play a role.

He made the final point that the best approach would most likely be one which allowed for some choice on the trainer's and the trainee's behalf.

Observations and issues

Although there was no prior knowledge of the key competencies at the site, because of the strong company culture and well developed performance and development review system, it seems however, that many of the key competencies are valued and fostered implicitly. To introduce them explicitly in such a formal way by means of structured on-the-job training was not viewed as necessary.

It is unlikely that the task appraisal tool would be accepted and successfully implemented at this site without it being tailored to include industry specific descriptors. This was clear from verbal feedback and from reading the written responses in the trainee sheets. It appeared in the sheets, that the key competency elements may have served to complicate rather than facilitate the process. The inclusion of industry specific descriptors applicable to the trainee's work, or the use of the key competencies without the elements, would make the tool easier to use, more likely to be accepted and therefore more effective.

Medium-sized Computer Repair Centre
Site No 7
Information Technology

Context

This medium-sized business which commenced in 1988 is the winner of the NSW Small Business Award for innovation and excellence in training in 1995, and in terms of volume, is now the largest repairer of computer monitors in Australia.

From its inception as a Skillshare training program, when it received Government funding to train and re-train unemployed people, it has had a training focus. Since then it has become self funding with a staff of 43. The Centre has a mentoring system in place for new employees and staff receive an average of 20 days on-the-job training and 10 days formal training each year. Those who oversee training each have an Associate Diploma in Adult Education and a Certificate in Electronics. Staff appraisal occurs every six months, with career goals and training requirements discussed, a training plan devised and productivity bonuses issued. As a part of their development, some staff take on the role of instructor in training others. An OH&S course and a resuscitation training session is compulsory for each employee on an annual basis.

The Centre has, since mid 1994, been recognised as meeting the requirements of the Australian Quality Standard AS3902. Its training is therefore closely linked to the maintenance of this standard and in addition it is also guided by International Standard IS3902. The IT curriculum used for electronics training, developed and implemented by the division's managers is written and delivered in CBT format and is an accredited VETAB course.

At this work site there is currently one trainee. He originally came here on work experience from a Government funded employment program and has been retained as a full time employee (trainee). In addition to on-the-job training he is also enrolled in a four year TAFE Electronics Trades Course. Once a task has been set for the trainee, most of the training is done by following the repair procedures manuals, which have been written by the employees; or by consulting fellow workers or the Section Head. In this sense training is informal. A job sheet is kept on every task completed and this is signed off by the Section Head who uses this opportunity to check on quality and speed of the operation and debriefs the trainee on the task. In addition the training manager has a watching brief over the trainee's overall performance and intervenes, counsels or assists when necessary.

There was no awareness of key competencies at this site prior to the commencement of this project.

Tool or approach

The Trainee Task Appraisal approach was piloted (see Site Report 5 attachments). This consists of a Trainer Assessment Sheet - Start of Trial which is filled in at the start of the pilot and is a means of getting trainers to familiarise themselves with the key competencies and their elements whilst mapping their trainee's level of competence; a Trainer Assessment Sheet - End of Trial which is used to gauge trainee acquisition of key competencies; and the Trainee Sheet which aims at getting trainees to view and review their allocated tasks from a key competency perspective. The trainee is meant to fill in one of these sheets each time a new task is commenced and to debrief his/her responses with the training supervisor.

Reason for selection

This approach was selected in the hope that it would provide the trainee and trainer with a work-related key competency mapping exercise, which would allow them to see to what degree key competencies were a part of work related tasks; to assist the trainee in developing a better understanding of the role of generic competencies in the acquisition of on-the-job training; and to assist the trainer in selecting, supervising, evaluating and reporting training tasks.

Given that there was only one trainee on site, it appeared that a trainee task appraisal approach would be the least intrusive and the most useful approach for the workplace as a whole. The trainer saw it as something achievable by the trainee, as well as something that might have future applications.

Piloting

After an initial meeting with the trainer, piloting of the approach commenced. The trainee was provided with an explanation of the project and key competencies, he then proceeded to complete a Trainee Sheet on a task that he had recently completed. At the same meeting but not in the presence of the trainee the trainer was asked to fill in the Trainers Assessment Sheet - Start of Trial. It was agreed that over the following three to four weeks the trainee would fill in as many Trainee Self Assessment sheets as possible. It was also agreed that the trainer would sign each sheet on its completion, thereby providing the trainee with an

opportunity to debrief. This aspect was not adhered to and may explain the limited amount of responses gained. On completion of the pilot the trainer and trainee were interviewed and the both completed a Trainers Assessment Sheet - End of Trial.

Results and issues

The response to the approach was mixed. The trainee found the initial task of filling in the Trainee Sheet quite useful because it alerted him for the first time to generic aspects of his work that he had never attributed a great deal of importance to. He felt that the exercise had helped focus his attention a bit more on the 'non technical aspects of his job', particularly key competencies 2, 4 and 6 which he saw as being both relevant to his job and (together with key competency 1) transferable between industries. One has to note that this was a perception not a demonstrated fact. Over a period of four weeks he filled in four Trainee Sheets, ie. he only examined four tasks in relation to the key competencies. He maintained that these were the four main tasks that normally comprised his workload and having examined them once in relation to the key competencies, he saw no value in repetition. It is possible that the age and maturity of the trainee may have contributed to this together with a lack of trainer supervision.

The Trainee Sheet appears to have some use whilst trainees are being inducted into new tasks , however its use as a long term self assessment tool seems to be questionable. What may be more useful is the development of a reflective tool similar to the Bradfield College Exit Documentation Report (Attachment 1) which the trainee would be required to complete at six monthly intervals. At Bradfield College this kind of report is prepared by the teacher in conjunction with a student, it requires both parties to examine and list all the trainee's experiences on-the job and cluster them under key competency headings.

The Trainer Assessment Sheet was found to be of greater value. The trainer saw this being used on a regular basis as a staff appraisal tool for both trainees and long term employees. It was suggested that the Sheet could be improved if it could capture a trainee's development between the Not Yet Competent and Competent phases and that this could be achieved through the provision of additional columns between these two headings.

There did not appear to be a marked change in the level of trainee's performance in the key competencies during the duration of the pilot. However this is not unusual given the short duration of the exercise. However there was a marked difference in the trainer's and trainee's perception of level of performance and this was seen by the trainer as a useful starting point for counselling.

From the trainer's perspective the approach was useful and enlightening. He saw key competencies 1, 4, 5, 6, and 7 as being extremely important in the IT industry. In his words 'It's key competency 6 that sorts out a good technician from an average technician'. The exercise has drawn his attention to the importance of making key competencies explicit whilst conducting specialist skills training and whilst assessing staff, although he did not see any need for key competencies to be integrated into Technical Training Manuals or to be assessed separately.

Attachment 1 for Site Report 7

Key Competencies

Bradfield College

Key competencies are the tools for applying general education in the workplace. They apply to work generally rather than to specific occupations or industries, and will help entry-level job seekers to be more effective employees. Both industry and the community have been instrumental in the development of and have endorsed the competencies

Vocational Area: Microcomputing Name: (Bruce)

Collecting and Organising Information

Locating information to select what is required and present it in a useful way

Bruce is a highly organised learner with a methodical and creative approach. His use of databases and skills in creating personal summaries of various subject areas is considered exemplary

- As a requirement of the Business Studies major assignment, Bruce visited and collected information on Company A from which he produced a report, including graphical representation of statistics, an outline of the prime functions of the business, management strategies and financial planning. The professionalism and detail to which the assignment was carried out earned praise from his teacher.
- During Industry Training at Company B, Bruce's supervisor was impressed by how quickly he was able to learn the Apple Macintosh and scanner. Consequently he was given the responsibility of data entry into the Macintosh system.

Using Mathematical Ideas and Techniques

Communicating effectively using the range of spoken, written, graphic and other non-verbal means of expression

Bruce has sound skills in systematically applying mathematical techniques and can successfully introduce and implement mathematical ideas to complex situations

- While participating in industry at Company B, Bruce impressed his supervisor by developing a lateral solution to a system error problem they were experiencing on the Macintosh computer. The solution not only proved successful but helped in making the system operate more efficiently.
- As well as participating in the Australian Mathematics competition, Bruce was invited to attend the Mathematically talented students day at the University of New South Wales. In addition he successfully participated in the TAFE Work Skills Australia Information Technology Regional Competition in computer software applications and the Queensland Computing Programming Competition.

Communicating Ideas and Information

Communicating effectively using the range of spoken, written, graphic and other non-verbal means of expression

Bruce is an effective communicator at all levels. He has the ability to express himself clearly and confidently.

- While participating in Industry Training at Company B, Bruce demonstrated an easy confidence when dealing with his co-workers. His supervisor noted his excellent ability to explain complex features of computing software packages in both the verbal and in written form. In particular, Bruce created a Quick Reference Guide for a spreadsheet package outlining the syntax for commonly used functions.
- Bruce was nominated b his peers in his Temporary English class to prepare, research and present information on humanity and science issues. His teacher was impressed by the thoroughness, sophistication and presentational techniques he used to heighten interest of his audience.

Solving Problems

The capacity to apply problem solving strategies both in situations where the problem and solution are evident and where a creative approach is required

Bruce is mature and creative in his approach to solving problems where solutions are not always evident

- As part of an industry training at Company B, Bruce was asked to design and implement a simple programming module for a spreadsheet application. Certain aspects of the task were beyond Bruce's understanding. Consequently Bruce availed himself to research information on this topic which helped lead to a successful and efficient solution.
- Bruce devised a solution to help facilitate the collection funds for the annual formal dinner. Part of the solution was to involve the college administration with the student administration.

Planning and Organising Activities

The capacity to plan and organise one's work activities, including making good of time and resources and monitoring one's own performance

Bruce always maintains an acceptable code of conduct in the workplace. He is punctual and an effective worker

- At Industry Training, Bruce always began the day by compiling a priorities task list. He maximised opportunities to use both his diary and the company diary systems to plan weekly and daily events.
- At college his teachers positively noted the variety of filing systems Bruce used for various subjects and assignments. This was highlighted at a college study camp where Bruce was able to successfully allocate and use his time effectively for both study and recreational activities.

Working with Others and in Teams

To interact effectively with other people and working effectively as a member of a team to achieve a shared goal.

Bruce possesses excellent personal and social skills. He is a creative individual and is dynamic force in any team.

- Bruce has been trusted and well respected member of his work team at Company B. He enjoys a popularity with work colleagues which has enabled him to successfully continue his on-the-job training for the past two years.
- As part of the Great Australian Science Day, Bruce along with three other colleagues, helped set up and display Electroboard to illustrate its usage as a computer blackboard. The team of four was responsible for handling queries from the public and the safe return of the equipment. His teachers commented on the professionalism and enthusiasm with which the task was carried out.

Using Technology

The capacity to apply problem-solving strategies both in situations where the problem and solution are evident and where a creative approach is required.

Bruce is a student interested in discovering new technology. He has the ability to maximise the full potential of all technology he uses.

- At Industry Training Bruce availed himself at every opportunity to explore the available computer software and was able to demonstrate to his supervisor his ability to quickly learn varying types of technology.
- Bruce has successfully completed both the Microcomputing TAFE Certificate and HSC Computing Studies course. During the duration of these courses he has developed a high degree of confidence in the following packages:
  MS-Word
  MS-Excel
  MS-Publisher
  MS-Access
  MS-Works
  MS-Windows
  MS-Basic

Bruce also has had exposure to Borland Pascal and Vax Network and modems.

Cultural Understandings

The capacity to apply understanding of the diversity and commonality within and between groups, organisations and societies towards the achievement of common goals.

- Being of Asian decent, Bruce has had to adapt and absorb the various cultures present in the Australian society as well as maintain his own. This acquired appreciation and understanding has been evident by his association with his fellow students and through being an active member of the multicultural community at Bradfield College.

Employment and Training Services Provider
Site No 8
Information Technology

Context

This is a non profit community organisation which provides employment and business support services. The organisation is made up of a number of divisions in various locations, with computer training as one of its specialised areas. The organisation is a registered training provider giving priority in its provision of services to the unemployed and socially disadvantaged. Commitment to its staff is demonstrated with the existence of staff working groups for administration, counselling and training services.

The trainee involved in the pilot is employed by the Corporate Services Division which has eleven workers. The trainee's work is in two areas of the organisation - accounts and servicing the computer network. Most of the tasks were related to computing such as purchasing/ordering, fault finding at a fairly low level, monitoring disk space and deleting old files.

Results

- According to the trainer's assessment the trainee increased his level of competence, measured on a three point scale, in 18 of the 42 elements of the key competencies. The scale was: not yet competent, competent and excellent. On the original assessment the trainee was regarded as not yet competent on 11 elements and on the final assessment 0 elements. On the original assessment there were 2 elements rated as excellent and 10 on the final assessment.
- The trainee at final interview said that as a result of the process of filling in the diary and reflecting on the tasks and their relationship with the key competencies that he felt more confident in undertaking tasks. He also reported that he felt he improved each week in certain areas and that the reason was that he became more aware of his capacities/competencies but that some of the key competencies were never used in the tasks he undertook.
- Evidence from the trainees diary indicates substantial reflection on a range of the competencies and some improvement over time or at least a greater degree of self confidence. For example, over the four weeks the trainee undertook a number of tasks

which required him to plan and organise activities (key competency 3) and to communicate ideas and information (key competency 2). In the first week a key task was to purchase a number of expensive network cables which required him to plan and prioritise his work and complete it within a specified time frame. In addition he was required to phone suppliers, explain what was wanted, obtain competitive quotes, make judgements about the quality of the product and reliability of the suppliers and negotiate supplies

His reflection on how well he did this planning and undertook the communication required included self questioning 'did I confuse the receiver? did he understand what I wanted? could I improve on my.. negotiation skills, listening skills?'

Three weeks later in commenting on his communication skills while tracking suppliers if database software he comments on his capacity in this competency participated: 'well in this communication process. Spoke in a business like manner clear and concrete.'

Over the four weeks his concentration on prioritising and organising his work to enable him to complete tasks on time enabled him to improve in this competency. By the end of the trial he confidently states that in tracking suppliers of software his main task in week four, he organised his time efficiently and prioritised tasks to enable him to complete the task in the time frame. This confidence is confirmed by the trainer who rated him as excellent on his capacity to set goals, determine priorities and establish a process to achieve goals and deadlines.

Discussion

The improvement of the trainee in many the key competencies as assessed by the trainer is confirmed by the trainee both in interview and in his diary. While the basis of the judgement of both of them is not able to confirmed by any objective measure, the fact that the perceptions coincide is persuasive evidence that improvement took place. An alternative explanation for the improvement - that the trainee's greater self confidence enabled him to give amore clearly articulate account of what he was doing is plausible but less likely than the former explanation. Possibly the Hawthorn effect also played a part in the improvement.
Nevertheless it is clear that a change in the trainee which is seen to be beneficial to the carrying out of work did take place and this can be explained most convincingly by the intervention in the form of the work diary and the analysis/reflection/planning cycle that it encouraged the trainee to undertake.
The trainee himself pointed out that most of the work that he did was relatively simple and he speculated on whether the same improvement and confidence would carry over to more complex tasks. Such questions and the further question of whether these improvements would

transfer to other situations will require far more research. Nevertheless there is good reason on the basis of what has been found here to undertake further empirical work to test the efficacy of techniques to increase self awareness and to make the key competencies explicit (and what to leave implicit) in training.

Suburban Specialty Salon (A)
Site No 9
Hairdressing

Context

This salon provides very up-market services in a major northside Sydney shopping centre. The salon has a staff of about 10 including 5 seniors and 3 apprentices. Training is seen as a main way to maintain a business edge. Both the owner/manager and the staff trainer are interested in ways of improving training practices. When first contacted, the Mayer key competencies as such were a new idea. However it must be emphasised that the important role of generic competencies in the workplace was recognised as a significant component of good training.

The apprentices receive workplace training which builds on the training that results from their attendance at the standard TAFE course. As well there are periodic training activities for all salon staff. Three training curricula by 'Salon Success Simplified' are currently being used at the salon. Analysis of these curricula showed some presence of key competencies but also some clear gaps as follows:

The Salon Training Manual, Year 1 Apprentice includes about half of the key competencies. Even where the key competencies are present, training might be improved by further increasing their role.

The Salon Training Manual, 2nd and 3rd Year is rather sketchy on inclusion of key competencies. Only three of the eight key competencies are obviously present.

The Salon Training Manual, Salon Management arguably incorporates all of the key competencies to some extent, though the last two to a minimal degree.

Tool or approach

After discussing various options, it was decided to develop a critical incident training scenario as a way of contextualising the role of key competencies in hairdressing. This could be expected to further illustrate some of the gaps identified in the three training curricula used in the salon. After discussion with the researcher on the nature of critical incidents, both the owner/manager and the staff trainer agreed to draw on their experience in the salon to

provide the outlines of suitable critical incidents. These were then written up by the researcher into the two 'critical incident scenarios'. (See Attachment)

Reasons for selection

Critical incident training scenarios were seen as a good way of contextualising the role of key competencies in hairdressing. This is an instance of the principle, supported by this research project, that significant work activities typically feature both specific work skills and key competencies (usually more than one) as well as aspects of the particular work context. The critical incident scenarios that have been developed in this instance certainly illustrate this principle.

An important point to note is that because of the significance of the particular work context, most critical incident scenarios do not have a single 'right answer'. Certainly the critical incident scenarios developed in this case could be expected to evoke different responses from different salons. There would also likely be differences of opinion on how best to proceed even amongst staff of one particular salon.

Piloting/feedback

The draft critical incident scenarios were revised following feedback from the owner/manager and the staff trainer. A proper testing of the usefulness of these critical incident scenarios would require their use with a new group of apprentices and/or stylists and also with staff of several different salons. In the time available for this project, this sort of testing has not been possible.

Results and issues

Issues

- role of key competencies in relation to existing training programs
- need for contextualised key competency descriptors

Attachment

Hairdressing Critical Incident Scenario No. 1 devised at Site No 9

You are working in a salon with a well-established group of loyal clients. One of the salon's most respected stylists dies suddenly. When the first few calls come from clients requesting appointments with the deceased stylist they are informed of the circumstances which puts them into shock. They are long standing clients who had become friends of the deceased stylist. Their typical reaction is to terminate the call. You realise that this is not satisfactory and devise a strategy for handling all future such calls:

Exercise: What specific telephone answering strategy would be best in this situation?

Suggested answer

General telephone answering strategy:

Give your name

Obtain caller's name early in the conversation

Repeat caller's name during the conversation and definitely at the close of the conversation

For this specific situation (note that there is no one right answer):

Give name and obtain client's name

Gently carry them through the initial shock giving them time to express their feelings compassionately

Then close off call with, e.g. 'You know (client's name) our salon has a strong team of stylists and we have record cards of your services and formulas and I would be only too happy to recommend a stylist to suit your hair (client's name). Can I book you in now?'

No pressure is put on. If there is any hesitation following the suggestion to make an appointment, say 'Please call me back when you feel ready and thank you (client's name).'

What are the advantages of this suggested strategy? Can you see any way of improving it? Are there any suitable alternative strategies for this situation?

How are the key competencies listed below involved in the suggested strategy?

Key competencies involved:

communicating ideas and information

planning and organising activities

solving problems

using technology

Attachment

Hairdressing Critical Incident Scenario No. 2 devised at Site No 9

A junior staff member who left the salon some months before returns to the staff. It was decided to take him back because the salon was short-staffed. Even so, the salon is still short of junior staff. Advertising for juniors continues but with no luck. Within a couple of weeks the junior who has rejoined the staff learns of the staffing situation and starts taking full advantage of the situation. He starts coming late to work, slackening off, etc.

Normally in a situation like this the staff member would be dismissed. However, it was close to Christmas, the busiest time of the year when it is vital that management have the required back-up staff, especially juniors. Since it was very difficult to find junior stylists, management decided to handle the situation very carefully.

Exercise: This is obviously a tricky situation. How to best deal with it depends in part on the individual involved. However, what sorts of strategies might be helpful for handling this situation?

Suggested answer

General:

Think of ideas about how to motivate and discipline staff in a constructive way.

For this specific situation (note that there is no one right answer):

Try to establish effective communication with this staff member in order to understand them better. Try honest and frank one to one discussion.

Look for ways to make this staff member feel more a part of the team, perhaps by giving him some particular responsibility in the organisation of the work.

Try firmly but gently to remind him of how things have to be for the long term health of the business.

Comment on this possible strategy. Are there any changes/additions that you would suggest?

How are the key competencies listed below involved in the suggested strategy?

Key competencies involved:

communicating ideas and information

planning and organising activities

solving problems

Franchised Suburban Salon
Site No 10
Hairdressing

Context

The salon is located in a large shopping complex at Penrith. The salon is one of six in a chain as part of a franchise arrangement. They have a pool of twelve staff, with three permanents and two apprentices. The salon has a long history of employing apprentices and has a strong training culture. Staff were recently involved in the skill olympics. Weekly training sessions are held one night a week, where styles and procedures are trialed on models and vendor training occurs. The apprentices are supervised by a 'mentor' within the salon during their first year. Subsequently, they themselves are given responsibility for a function within the salon on an equal footing with other staff. In this sense, areas of responsibility within the salon are rotated through by all staff. The apprentices also attend an additional training session one night a month where motivation and feedback are provided by the franchise manager. None of the staff have workplace trainer or assessor training.

The manager was not aware of the key competencies and whilst they were not explicit in any of the salon's activities, they were agreed as being relevant to the salon's operations. The elements of each competency were considered too technical, with the need expressed for specific examples of the key competencies as they appear in salons.

Tool or approach

The manager was keen to develop an activity for the basin skills area because of the need to develop communication skills. An activity was developed that drew on basin skills performance criteria from the recently developed TAFE curriculum. The critical incident activity was also provided to be used in debriefing activities if the opportunity arose.

Piloting

Over two visits, the manager felt comfortable with the competencies and how the activities could be conducted. The key competencies themselves were introduced to the staff at a training session on one week, with the activity conducted during the second week.

Observations and issues

- getting the apprentices to think about how the rest of the salon is working.
- need for contextualised key competency descriptors.
- saw little value in separately reporting and assessing the key competencies.
- the need for an information pack on what the key competencies are about.

Attachment

Scalp Treatment and Basin Skills

It is suggested that the trainees be told that they are being assessed on scalp treatment and basin skills and the key competencies. the relevant key competencies are listed below.

KC 1 Collecting, analysing and organising information.
KC 2 Communicating ideas and information.
KC 3 Planning and organising activities.
KC 4 Working with others and in teams.
KC 5 Using mathematical techniques and ideas.
KC 6 Solving problems.
KC 7 Using technology.
KC 8 Cultural understanding.

Trainees will:

- complete a suitable shampoo procedure for a client in preparation for salon services.
- carry out related basin skills associated with chemical reformation service.
- safely apply semi permanent colour and remove colouring products according to M/I.

Pass Criteria:

Shampooing
Gowns and protects clients according to M/I
Verifies service with client and operator
Ensures client safety and comfort at all times
Uses correct / comfortable water pressure and flow
Applies / removes shampoo / conditioner as per MI
Maintains a safe efficient and clean work environment

Chemical Reformation
Products are prepared and applied as per MI
Safely removes reformation chemicals as per MI
Excess moisture removed from hair
Correctly applies and times the rebonding lotion
Removes perm rods without disturbance

Ensures client comfort and safety

Application and Removal of Semi Permanent Colouring Products

Prepares client and equipment for colour service

Chooses appropriate application methos for semi permanent colour e.g. brush, bow/,bottle or sponge.

Applies semi permanent colour, according to MI, to ensure even coverage

Times colour service according to MI

Removes semi permanent colour according to MI

Removal of permanent colour

Chooses the correct process and removes permanent colour products.

Evaluates the application technology to enhance if necessary.

Condition Analysis and Product Selection

These activities will be assessed by the employer or supervisor. It may be necessary for the task to be observed more than once over a period of time. It is suggested that the trainees be told that they are being assessed on analysis and product selection and the key competencies (KCs). The relevant key competencies are listed below.

KC 1 Collecting, analysing and organising information.

KC 2 Communicating ideas and information.

KC 3 Planning and organising activities.

KC 4 Working with others and in teams.

KC 6 Solving problems.

KC 8 Cultural understanding.

If the trainees successfully complete the activities suggested below then they will be deemed to have demonstrated those key competencies. With all the activities on this sheet, the trainees should be made aware of what is required of them prior to undertaking the activity.

Students should also be given the opportunity to evaluate their own performance of the work skills but also the key competencies.

Strategy 1: Role Play

Trainees may carry out elementary hair and scalp analysis and product selection o each other.

Strategy 2: Peer Evaluation

Learners may carry out elementary hair and scalp analysis and product selection on a nominated person (in isolation). After all the students have completed this exercise the group then individually presents and justifies their results. Discussion and debate the different results can be facilitated by the trainer/supervisor.

Analysis Pass Criteria: Texture, Porosity, Elasticity, Density, Sebaceous Activity, Hair/Scalp/Skin

Product Pass Criteria: Shampoo Procedure, Hard/Soft Water, Shampoo Action

Franchised City Salon
Site No 11
Hairdressing

Context

The salon is one of a national chain and is located within a large shopping complex in the city. They have ten staff, four of whom are apprentices. They believe that they have a strong training culture, stronger than most other salon chains. One night per week, a training session is co-ordinated by the State Manager. These evenings are variously arranged by salon, groups of salons and/or apprentices depending on the schedule. The training includes the use of models and involves vendor training and new styles and products. They have an existing appraisal system where staff performance is judged every three months against a number of generic capacities such as communication skills and teamwork, as well as job specific competencies drawn from the company training materials.

The salon manager is responsible for supervising the apprentices, and gives feedback to the state manager who oversees their evaluation. By the end of the fourth year each apprentice will also have attended two work-based off-the-job courses. Separate programs also offered to salon managers at the same company training venue.

On-the-job training is unstructured but based on a buddy system where the manager oversees and guides the apprentice as he/she moves from simple to more complex tasks within the salon. Current training practices do not explicitly include the key competencies although their development would be an outcome of some of the training conducted.

Approach and rationale

Discussions were held with the State Manager who considered the key competencies in terms of the salon's existing training operations. It was noted that the key competencies were valued skills that related to the work of the salon, although more contextualised statements were thought to be of more use. Particular interest was shown in using the key competencies as an element of their performance appraisal system, with the incorporation of opportunities for self assessment against the key competencies also considered an option. After two meetings the key competency descriptors and relevant elements were left with the manager who intended to use them in some way.

Observations and issues

Due to difficulties of establishing further access and maintaining contact, no opportunities for trialing an instrument became apparent.

Issues identified as relevant at this site included:

- the need for contextualised key competency descriptors.
- the comparability of key competencies and existing related competencies

Suburban Specialty Salon (B)
Site No 12
Hairdressing

Context

This salon provides very up-market services in a south-western Sydney suburban shopping centre. The salon has a staff of 4 seniors and 3 apprentices. The training culture is very strong. Training is seen as the foundation for maintaining the high level of support from clients, some of whom travel from various parts of Sydney. The owner/manager acts as the staff trainer and is very interested in training. She is a provider of training for other hairdressing salons, is on the TAFE advisory committee and is also on other industry committees. She attended the Skill Olympics in November and found them to be very stimulating for thinking about key competencies in relation to hairdressing. One of the staff seniors is a former competitor in the Skill Olympics.

The apprentices receive workplace training which builds on the training that results from their attendance at the standard TAFE course. As well there are periodic training activities for all salon staff. When the salon was first contacted, the Mayer key competencies as such were a new idea. However it must be emphasised that the important role of generic competencies in the workplace was recognised as a significant component of good training. Since first contact was made, one of the industry committees on which the owner/manager sits has started to address the key competencies.

Tool or approach

After discussing various options, it was decided to develop a critical incident training scenario as a way of contextualising the role of key competencies in hairdressing. After discussion with the researcher on the nature of critical incidents, the owner/manager agreed to draw on the experience in her salon to provide the outlines of a suitable critical incident. This was then written up by the researcher into the 'critical incident scenario'. (See Attachment)

Reasons for selection

A critical incident training scenario was seen as a good way of contextualising the role of key competencies in hairdressing. This is an instance of the principle, supported by this research project, that significant work activities typically feature both specific work skills and key competencies (usually more than one) as well as aspects of the particular work context. The critical incident scenario that has been developed in this instance certainly illustrates this principle.

An important point to note is that because of the significance of the particular work context, most critical incident scenarios do not have a single 'right answer'. Certainly the critical incident scenario developed in this case could be expected to evoke different responses from different salons. There would also likely be differences of opinion on how best to proceed even amongst staff of one particular salon.

Piloting/feedback

The draft critical incident scenario was revised following feedback from the owner/manager. A proper testing of the usefulness of this critical incident scenario would require its use with a new group of apprentices and/or stylists and also with staff of several different salons. In the time available for this project, this sort of testing has not been possible.

Results and issues

Issues:

- role of key competencies in relation to existing training programs
- need for contextualised key competency descriptors

Attachment

Hairdressing Critical Incident Scenario devised at Site No 12

Mrs. X comes into your salon and wants her hair done. She complains of all her past experiences at hair salons. She explains what she wants. It soon becomes clear that what she wants is not achievable. You try to make her aware of this, but she cannot understand why what she wants is unachievable.

Exercise: Assuming that you are looking for more customers, what do you do to try to win Mrs. X's confidence?

Suggested answer (note that there is no one right answer)
A possible strategy is the following:
Explain that if she persists she will end up with the result that she has always had. Point out that this is what is making her unhappy.
Assure her that there are other alternatives.
Obtain second opinions from other staff.
Explain the other alternatives and assist her to choose one.
Explain step-by-step what is going to happen.
Reassure her and give her confidence, e.g. by use of visual aids - pictures, etc.
Work to produce an agreeable result.
Record every procedure on a history card for when the client returns.

Comment on this possible strategy. Are there any changes/additions that you would suggest?

How are the key competencies listed below involved in the suggested strategy?
Key competencies involved:
collecting, analysing and organising information
communicating ideas and information
planning and organising activities
working with others and in teams
solving problems

Suburban Specialty Salon (C)
Site No 13
Hairdressing

Context

This is an independent salon in Balmain. They have a staff of a dozen or so including three apprentices and cater for a fairly upwardly mobile clientele. The salon has a strong training culture. Every Friday morning before work they have a training session, that is supplemented by a nightly session once a fortnight. These sessions include issues relating to the salon's operation, as well as new techniques and styles. The owner/manager had attended an accredited train the trainer program, but felt that further training would be necessary to develop better activities for the salon. Staff have won awards at various events and are sent to industry training academies to keep their skills up to date. One of the staff has developed a series of basic modules that identify a range of outcomes drawn from professional industry courses. Apprentices cover each of the modules during the course of their employment, but the training is not linked to the specific on-the-job requirements of the apprenticeship. The apprentices are supervised by the manager, with appraisals occurring every month. Senior staff undergo appraisals twice yearly.

The owner/manager of the salon is in the process of developing a fairly sophisticated policy and procedures manual that includes documentation for job analysis, performance standards and self assessment that has been drawn from a range of sources both within and outside the industry. Current training practices do not aim to explicitly develop the key competencies.

Approach and rationale

Whilst the key competencies had not been heard of, it was agreed that they were relevant as skills required by hairdressers. The owner/manager chose customer service as an area where she felt some attention would be worthwhile. A problem based learning approach was adopted, utilising an exercise developed by Penny Little (PROBLARC, 1995) for hairdressing.

Piloting and feedback

The exercise was conducted over one evening. Staff worked in pairs and were asked to: identify the relevant factors for each stage of the problem; come up with a solution, and

identify which key competencies were relevant. The details were recorded on a proforma developed by the salon manager. That activity took up a whole evening. On the next training night, a new activity was developed by one of the senior staff members. It involved using the key competencies as focal points for a discussion of problems that had recently occurred at the salon (in many ways similar to the critical incident tool used with other workplaces). The elements of the solution were identified as relating to particular key competencies.

The manager commented that the use of the key competencies added a new dimension to the salon's training activities. She felt that they raised the staff's awareness and self esteem by acknowledging skills that they possessed, and by promoting the self concept of being multi skilled.

The key competencies were also valued as they enabled staff and management to reconceptualise their work from a different perspective. What once was simply booking a client became: using technology; communicating ideas and information; and collecting, organising and analysing information.

Other relevant comments

Outside the scope of the current research, additional possible uses for the key competencies were identified as: staff appraisal mechanism; job analysis checklist; work experience evaluation proforma.

Observations and issues

- the need for contextualised key competency descriptors that describe them in action within the hairdressing industry
- the importance of relating the key competencies to the training they already do
- little support for reporting or separately assessing the key competencies
- the need for further professional development for supervisors and trainers.

Attachment to Site Report 13

Hair Customer Service Exercise

The aim of this exercise is to give trainees an opportunity to demonstrate their customer service skills. The exercise can be run as a single event, or as separate parts. Staff should be given the opportunity to evaluate their responses and consider them in a critical way. If the opportunity exists, it may be appropriate for the staff to write their responses. Please note that their is no correct answer.

Whether you choose to conduct the exercise as a whole or in parts, the following approach is recommended.

1. Discuss the factors you need to consider in making your decision.
2. What would you do ?
3. What skills and knowledge do you require for this situation ?

The key competencies could also be used as starting points for the debriefing. For example, staff could be asked to consider how they worked with others or in teams, or communicated ideas and information. They could also be used to assist in question three above. The full list of key competencies are listed overleaf.

PART 1

You are a hairdresser working in a salon in Sutherland with six other employees. Your boss, Victor, has asked you to attend to the phone and the sale of hair products in addition to your appointments. You are attending to a customer who is purchasing styling mouse when the phone rings.

PART 2

You apologise to the customer, answer the phone and ask the caller to hold. Having completed the sale you return to the phone call. The client, Mrs Joseph, requests an appointment this morning for a haircut with Victor and says she would also like streaks. You are aware that Victor has a full schedule of clients because he is leaving for four weeks holidays the next day.

PART 3

Having explained the situation to Mrs Joseph and offered a range of alternatives, she still insists on needing the appointment urgently this morning. You consult Victor, who agrees to fit her in because she is a valued client of some twenty years and he also says that you can do her streaks. You convey the message to Mrs Joseph and request she come as soon as possible. Victor is completing Mrs Joseph's haircut and you are preparing to do her streaks. A young Italian couple with a two year old girl and a baby walk into the salon. Victor greets them in Italian. He tells you that the family is next appointment and asks you to attend to them while he completes Mrs Joseph's haircut.

PART 4

Having settled the family, you return to Mrs Joseph. Consulting her record card, you ask her was she satisfied with her streaks on the last occasion they were done in the salon. She replies 'actually I wasn't. I thought they were too grey. I did tell the girl what I wanted but she didn't seem to listen.'

The key competencies are:

- Collecting, analysing and organising information. The capacity to locate information, sift and sort information in order to select what is required and organise it in a useful way, and evaluate both the information and the sources and methods used to obtain it.
- Communicating ideas and information. The capacity to communicate effectively with others using the range of spoken, written and graphic and other forms of non-verbal means of expression.
- Planning and organising activities. The capacity to plan and organise ones own activities, including making good use of time and resources, sorting out priorities and monitoring one's own performance.
- Working with others and in teams. The capacity to interact effectively with other people both on a one-to-one basis and in groups, including understanding and responding to the needs of others and working effectively as a member of a team to achieve a shared goal.
- Using mathematical ideas and techniques. The capacity to effectively use mathematical ideas, such as number and space, and techniques, such as estimation and approximation, for practical purposes.
- Solving problems. The capacity to apply problem solving strategies in meaningful ways, both in situations where the problem and the desired solution are clearly evident and in situations requiring critical thinking and a creative approach to achieve an outcome.

- Using technology. The capacity to apply technology, combining the physical and sensory skills needed to operate equipment and the understanding of scientific and technological principles needed to explore and adapt systems.
- Using cultural understanding. The capacity to apply understandings of the diversity within and between groups, organisations and societies towards the achievement of common goals.

Notes on assessment and recording

At this stage, you may simply want to let the trainee know if their responses are satisfactory based on your understanding of the scenario. As the facilitator of the exercise, you may wish to provide the extra details as required. Assessment and recording options are varied. For the future, you may wish to consider the following:

- a checklist that identifies pass criteria to be marked off by the trainer that includes the key competencies;
- a journal in which trainees assess and record their own performance of the key competencies;
- a logbook that includes on and off the job assessment events including the key competencies, and
- descriptive statements of how the trainee has demonstrated each key competency.

Medium-sized Hotel (A)
Site No 14
Hospitality

Context

This inner city hotel comprises a cafe/bistro, bottle shop, TAB facilities and several bars. The hotel is a single establishment, operated by the Licensee for 15 years. A staff of 30 are employed. This includes two Hospitality Operations (Food and Beverage) trainees who complete one day of off-the-job training at a TAFE college each week. A further 15 staff work in the leased kitchen and on security. The Licensee has retained responsibility for training and 'doesn't assume that training occurs by accident'. Although he says he does not believe in 'structured' training, the site has built up an approach to training which works for the Licensee and staff and has been recognised within the industry. The Licensee indicated that training occurs 'every minute that we're operating'. This approach includes the rotation of trainees through the main areas of the hotel, using 1:1 training and a 'buddy system' with staff identified as having skills in particular areas. Trainees also complete a written review of their training every three to four months. This includes an assessment of competence on 205 tasks, completed by both the trainee and Licensee. Monthly staff meetings are also viewed as an opportunity for shared learning. There was no awareness of the key competencies at the site.

Tool or approach

Three approaches were piloted: Using Key Competencies to Cluster Training Activities: Hospitality Operations Traineeship (Food and Beverage) (Attachment 1);
Using Critical Incidents in On-the-Job Training (Attachment 2); and Problem Based Learning (Attachment 3).

Reason for selection

Discussions with the Licensee at the first meeting suggested that successful approaches to implementing key competencies at this site would need to use clear English, rather than VET jargon and demonstrate the relationship between the key competencies and existing training practices. As existing practices are regarded positively it also appeared desirable to build on these practices, which were mainly verbal. Any tools or approaches also needed to be

sufficiently flexible to accommodate individual trainee differences and varying training needs.

Piloting

Development and piloting occurred over three meetings, with the Licensee reflecting on his current practices and how theses tools/approaches might enhance existing practices by making the key competencies more explicit. The researcher also observed current practices over a five hour period and had access to self-appraisal reports prepared by trainees (to examine connections between existing practice and the key competencies).

Feedback on the tools

The Licensee responded positively to the three draft tools and did not suggest any significant changes. The Critical Incident and Problem Based Learning sheets were closely aligned with existing practices used in 1:1 coaching/mentoring and during monthly staff meetings.

Suggested improvements

The Critical Incident and Problem Based Learning sheets would be most effective in the Hospitality industry when used as a verbal training tool.

Other relevant comments

The Licensee indicated that all employers taking on trainees should be required by DEET to attend a one day training workshop which includes information on training and performance review. He also felt that there was a need for the industry to identify effective workplace training practices and then look at the relationship between these practices and the key competencies. Finally, he commented that key competencies will only be included in on-the-job training if employers/ managers have access to workshops or consultants. Written material sent to enterprises is likely to be ignored.

Observations and issues

The key competencies are well-covered implicitly at this site but the language of key competencies was not considered very meaningful. While there was acceptance of the tools as representing effective training practices, there was less acceptance of the explicit use of the language of the key competencies. Also, marketing key competency options which sit comfortably with existing, effective on-the-job training practices is very important.

Attachment 1

Using key competencies to Cluster Training Activities

Hospitality Operations - Food and Beverage

1. Collecting, Analysing and Organising Information

Read and interpret rosters, manuals, plans and diaries
Use correct procedures for taking table bookings and/or orders (e.g. memorisation or complete order documentation)
Give and follow simple routine instructions
Gather, record and convey simple and routine information (e.g. on products)
Check supplies of bar consumables (e.g. alcohol, cigarettes)
Follow written instructions (e.g. codes for products from different bars, memos on policies)
Determine needs of patrons (e.g. those who want to finish up and move on, those who want to linger)

2. Communicating Ideas and Information

Use appropriate customer approach techniques (e.g. eye contact, greeting, positive manner, apply principles of service)
Welcome and farewell customers
Respond to customer orders and requests
Advise customers (e.g. food and beverages, service periods)
Participate in staff meetings
Report breakdowns or safety hazards
Use language appropriate to the workplace
Fill out checklist at the end of shift indicating tasks for next shift
Interact with customers using the telephone

3. Planning and Organising Activities

Prepare the dining room prior to service (e.g. equipment, furniture, decorations, napkins)
Set up tables and consumables prior to service (e.g. glassware, coffee and tea service)
Prepare waiter stations
Prepare the bar for service (check stock levels/restock, prepare garnishes, prepare bar layout as instructed, balance till and prepare float)
Take and process orders according to establishment procedures
Serve and clear food and drinks

Clear and re-lay tables
Prepare and serve a variety of drinks (e.g. select appropriate glassware, use appropriate garnishes)
Follow organised work schedules to complete tasks
Act on feedback provided by the trainer/supervisor
Prioritise a number of tasks into a workable sequence for completion
Maintain an orderly work environment
Identify ways to improve work performance

4. Working With Others and in Teams

Participate as an effective member of the establishment (e.g. complete assigned tasks within designated time, use correct procedures)
Help out others on the shift as required
Complete some preparation for the next shift
Adapt to workplace requirements
Show respect for fellow workers and owner/manager/supervisor
Demonstrate appropriate dress, personal grooming and hygiene
Show an understanding and tolerance of a wide variety of people and/or situations

5. Using Mathematical Ideas and Techniques

Prepare and finalise accounts
Handle cash accurately (e.g. count out change)
Calculate discounts
Estimate by rounding up to check that the bill is correct
Estimate customer numbers and requirements in relation to availability of consumables
Under supervision, set up cash register and/or complete cash reconciliation as requested
Add and subtract for basic stocktake
Mark up stock prices (e.g. liquor tax)
Fill out time sheet

6. Solving Problems

Demonstrate an understanding of customer needs and wants
Deal with customer problems (e.g. incorrect change, incorrect order, expectations not being met)
Deal with problem customers, or refer problems to supervisor
Work with other staff within space constraints on busy nights
Use initiative to complete tasks

Deal with equipment breakdowns (e.g. ice machine)
Use manuals to solve operational difficulties
Use common sense to complete challenging tasks
Seek information and/or assistance when unsure

7. Using Technology

Recognise and name bar equipment (e.g. pourers, corkscrews, post mix systems)
Operate workplace equipment safely and effectively (e.g. cash register, calculator, drink taps, electronic nip dispenser, dishwasher, coffee making machine, stereo equipment)
Prepare, clean and maintain workplace equipment
Tap a keg
Process credit card payments
Operate EFTPOS facilities
Operate gaming facilities (e.g. process central credit units)
Operate Pubtab facilities

8. Cultural Understanding

Work with sensitivity in a multicultural workforce
Prevent misunderstandings arising from cultural differences (e.g. listening carefully to customer orders)
Recognise the nationality/cultural background of customers and offer service which meets their needs and expectations
Work within a customer service culture
Recognise and work within the atmosphere of the workplace

Attachment 2

Using Critical Incidents in On-the-Job Training

Rationale

Critical incidents provide one approach to the use of scenarios in on-the-job training. Real events or incidents which occur naturally in the workplace can be a valuable training tool. When used skilfully, the critical incident approach can be used to:

- discuss and dissect negative incidents;
- review, praise and reinforce positive achievements;
- relate the key competencies to individual, team and/or workplace effectiveness;
- help trainees reflect on their own values and the impact of their actions on others;
- expand the awareness of trainees on other possible views and approaches;
- anticipate and deal with similar incidents in other situations; and
- generate alternative strategies that may be applicable in future situations.

Hints for using critical incidents and the connection with the key competencies

Workplace trainers may wish to use critical incidents in several ways:

- as a tool during one to one discussion and mentoring with a trainee;
- to stimulate discussions amongst a group of trainees or a work team; and
- as a written activity (e.g. 'learning portfolio' or log entry) completed by trainees.

The incident may relate mainly to one key competency (e.g. cultural understandings). However, it is more likely that the incident will involve a number of key competencies. For example, communicating ideas and information, planning and organising activities, working with others and in teams, solving problems and cultural understandings may all be related to an incident involving 'the customer from hell' or 'receiving my biggest tip ever'.

Suggested Process

Following a critical incident, the mentor or trainer should review the incident with the trainee. The trainee will:

1. Describe the incident experienced or witnessed.

2. Identify why the incident occurred.

3. Reflect on how the key player/s handled the situation.

4. Identify which of the following key competencies were important:

- Collecting, analysing and organising information
- Communicating ideas and information
- Planning and organising activities
- Working with others and in teams
- Using mathematical ideas and techniques
- Solving problems
- Using technology
- Cultural understandings

5. Explain what should be done differently next time in this situation (or a similar situation) and why.

Attachment 3

Problem Based Learning

Background Information

Problem based learning (PBL) is a training and learning strategy. It develops thinking and vocational skills by placing trainees in the active role of confronting and solving a real problem in their work environment. This approach is not new and many variations of PBL are possible. It incorporates:

- the development of problem-solving skills;
- the development of initiative and self-directed learning;
- the integration of structured learning within a vocational context; and
- opportunities for the mentor/trainer and the trainee to identify areas in which the trainee requires further learning opportunities.

To maximise the benefits of this approach, the activity should be structured, whether it is used as a written or verbal activity. Also, the learning process should be made explicit to trainees (rather than hidden) so that they understand the activity, the reason for doing it and its relationship to learning.

Suggested Process

1. Problem Design or Identification

Identify actual problems, activities or situations which could be used for training purposes.
Identify the types of learning that will be developed or demonstrated by addressing this problem or situation (e.g. which key competencies and vocational competencies?)
Determine what you expect trainees to achieve.
Identify any resources, materials, guidance or monitoring that will be needed during each phase of the activity. For example, in the briefing phase, will the mentor/trainer guide the trainee by analysing the problem and discussing possible approaches, or will the trainee be expected to complete the activity in a totally self-directed way?

Think about the critical role of the trainer or mentor in this process. Hints are provided on the next page.

2. Trainee Briefing

Explain the problem or activity to the trainee, including:

- reasons for the activity;
- time frame;
- resources and support which are available;
- expected outcomes; and
- the debriefing process.

3. Trainee Problem Solving Activity

Trainee completes the activity with resources and level of support agreed in the briefing session.

4. Debriefing

Mentor/trainer and trainee review the activity, appraising:

- the outcome of the activity (ie. the product or solution);
- the learning outcomes (ie. competencies developed or demonstrated, including their connections with the key competencies); and
- future trainee learning needs.

Hints for mentors and trainers using problem based learning

1. The first time that you use this approach with a trainee you may need to use a directed approach, rather than a self-directed approach. This means that rather than posing a problem and asking the student to solve it alone, you discuss possible strategies and processes **before** the trainee commences the activity. By using this approach you can guide trainees through an analysis of the problem and encourage the trainee to consider problems in a systematic way.
2. Ask open-ended questions to promote thinking and reasoning. Pose questions and ask for clarification from trainees (e.g. Why did you .....?)
3. Ask trainees to critique the processes they have used and consider alternative approaches (e.g. Would you have done that differently if the customer had .....?)
4. Promote the application, synthesis and extension of information. Encourage trainees to make connections between:
   - the key competencies and the competencies which are required for successfully solving the problem (e.g. How did you demonstrate the key competency of ..... in solving this problem?)
   - this activity and other possible future activities (e.g. What would happen if .....?)

Using these approaches reinforces learning and assists the transfer of learning to other situations.

5. Depending on the problem and the abilities of the trainee, you may need to guide, direct and, if necessary, intervene in a problem-based learning activity.

International Hotel
Site No 15
Hospitality

Context

Located in the inner city, this 585 room hotel is part of an international chain. A staff of approximately 800 are employed (c 60% full-time), including 17 Hospitality Operations (Food and Beverage) trainees. The hotel has a structured approach to on-the-job training, including both workplace training and in-house training courses. In addition to the training unit there are 45 accredited workplace trainers (no workplace assessors). The focus of the project at this site was entry level on-the-job training for food and beverage attendants, targeting the cuisine outlet in the hotel which provides most of the initial entry level training.

Tool or approach

Two approaches were trialed:

- A mapping exercise was completed, enabling an examination of the relationship between existing on-the-job training documents (covering delivery, assessment and reporting for food and beverage attendants in one of the hotel's restaurants) and the key competencies elements. This exercise included the provision of advice on how the key competencies could be used to improve the Staff Performance Review form (used after three months with new employees, then annually for all line employees in the hotel) which is about to be reviewed.
- Feedback was sought and obtained on three tools developed in collaboration with other organisations in the hospitality industry: Using Critical Incidents in On-the-Job Training, Problem Based Learning and Using Key Competencies to Cluster Training - Hospitality Operations Traineeship (Food and Beverage). The tools are provided as attachments to Site Report 14.

Reason for selection

As this site already has a structured approach to on-the-job training and has identified both generic and job specific competencies for all positions, this project provided an opportunity to examine the relationship between current practices and the key competencies for one

significant classification of entry level position. The position of Food and Beverage Attendant was also selected because this job accounts for relatively high employee numbers, where there is high turnover. It is also the position most frequently used for entry level employment and traineeships. Use of the three sheets developed for other sites enabled a limited amount of testing of the relevance of this material for a large enterprise with a structured approach to training.

Piloting

The piloting process involved four on-site meetings (one involving both the Human Resources Director and Training Manager and three with the Training Manager), extensive analysis of a series of on-the-job training documents and the preparation of a report which was discussed at the final meeting.

Feedback

- The report resulting from the mapping exercise and evaluation of the Staff Performance Review form will be used in the review of this form and in revising the competency checklist for new food and beverage attendants in of the restaurants at the site.
- Problem Based Learning: Considered a useful sheet which bears some resemblance to activities used in the hotel's management training. The merits of using problem based learning in the hotel's internal training programs and the workplace will be examined further.
- Using Key Competencies to Cluster Training Activities: this material will be used together with the results of the mapping exercise in revising the existing checklist for new food and beverage attendants.
- Using Critical Incidents: This sheet was considered of least relevance at this site. The approach is already used, informally, to some extent, but supervisors are generally young and it was considered unlikely that they would relate the key competencies to incidents, during feedback provided to trainees on busy shifts. For major incidents the hotel already has a debriefing strategy which is included in supervisory training (ie. Performance Counselling). Also, the focus of this strategy is trends in behaviour which affect performance, rather than specific incidents.

Suggested improvements

Nil at this stage because of the project timeframe.

Other relevant comments

The Training Manager felt that the tools/approaches introduced at the site met the need for simple, quick approaches which were 'marketable' to workplace trainers. Further incorporation of these tools/approaches and recommendations may occur following a trainers' network meeting (ie. the 45 trainers at the hotel) which will occur in early December.

Observations

The tools and information provided during the research were considered useful, but the project ended before a real impact could occur. Opportunities for further collaborative work on the key competencies may exist at this site, depending on the outcomes of the trainers' network meeting and the time frame for the review of the staff performance review form. Feedback from this site also suggests that the Critical Incident tool is more appropriate for small and medium size enterprises than for larger enterprises.

Small Restaurant
Site No 16
Hospitality

Context

This inner city restaurant has traded for one year. It seats 46 people and opens seven nights per week. A staff of four are employed, including the owner/chef and a 26 year old Hospitality Operations (Kitchen) trainee. The trainee commenced the job with no skills in the area and was regarded as possibly having learning difficulties. He completes one day of off-the-job training at a TAFE college each week. The owner is an accredited workplace trainer and assessor who considers himself supportive of training.

Tool or approach

Three approaches were developed and trialed:

- Using Key Competencies to Cluster Training Activities and Review Performance (Kitchen) (Attachment 1)
- Using Critical Incidents in On-the-Job Training
- Problem Based Learning

Copies of the second and third tools are provided as attachments to Site Report 14.

Reason for selection

At this site there were no structured training activities or assessment/review activities in a written or verbal format. Training of the trainee has involved telling and retelling the trainee within the context of 'hands on' tasks. The owner had also responded negatively to the initial project sheets on the key competencies, so it was evident that a contextualised approach to using the key competencies was necessary. He was also concerned that any tools or approaches should be straightforward and non-threatening to the trainee. Discussions with the owner on his training practices also suggested that brief, practical tools which built on current verbal practices should be developed.

Piloting

Development of the tools and piloting occurred over five meetings and one telephone interview. All development work was completed by the researcher, using examples and feedback (particularly on the language) provided by the owner. Following the third meeting the owner discussed the Clustering Key Competencies sheet with the trainee and a copy was placed on the fridge in the kitchen as a reminder and prompt. After the fourth meeting the performance review tools for the owner and trainee were introduced. Both completed the draft sheets.

Feedback

- The Critical Incident, rather than the Problem Based Learning Sheet was considered useful by the owner because it could be easily related to specific incidents (such as the preparation of insufficient quantities of vegetables, not reading dockets beyond the entree, using new stock before old stock, and to giving positive feedback when the trainee had made a successful contribution to a night's trading). He also spoke positively about the structure and one page layout. However, the tool would only be used verbally and it is unlikely that the owner would explicitly speak about the key competencies when using the Critical Incident sheet.
- The Problem Based Learning Sheet was considered less relevant, given the limited range of duties of this trainee, working in a small kitchen.
- Using Key Competencies to Cluster Training and Review Performance: This tool has provided the owner with a brief tool which he felt would be useful for encouraging the trainee to monitor his own performance and obtain feedback 'at a distance' from daily activities. He also indicated, from past experience, that he felt the tool could be used effectively by supervisors employed in medium size enterprises.

Suggested improvements

Improvements were incorporated during development of the tools.

Other comments

Given the pressure and energy devoted to 'staying afloat' in small businesses, the owner felt that the materials developed and piloted for his site may gain more acceptance in medium rather than small businesses. However, he thought that the tools would improve training in

the industry and re-emphasised the need for short, clear and simple approaches relevant to on-the-job training delivered as an integral part of everyday operations.

More generally, the owner commented that he did not consider some of the elements of key competencies 1, 5, 6 and 8 relevant to the relatively low level tasks of his kitchenhand.

Observations

Over a ten week period a number of customised tools have been developed collaboratively with the owner of this restaurant. However, while he is able to see their value of the key competencies and of using these tools, it is unknown whether they will be used over the longer term, as a result of the time and energy required to focus on keeping the business going. This site may well exemplify the informal 'hands on' training practices of newly opened small businesses, where structured, formal training activities and materials are not used.

Attachment 1

Using Key Competencies to Cluster Training Activities and Review Performance: Hospitality Operations Traineeship (Kitchen)

WHAT TRAINEES NEED TO KNOW

ABOUT

KEY COMPETENCIES

1. Key competencies are considered important by business and industry, education and training providers and governments. Many employers now place as much value on personal and social skills as on technical competence.

2. Eight key competencies have been identified as important. They are:

   Collecting, Analysing and Organising Information
   Communicating Ideas and Information
   Planning and Organising Activities
   Working With Others and in Teams
   Using Mathematical Ideas and Techniques
   Solving Problems
   Using Technology
   Cultural Understanding

3. Key competencies are inter-related and overlap. They are not totally separate from each other.

4. Key competencies are not limited to specific jobs but can be applied to all industries and occupations. Key competencies recognise that all employees (including trainees) must be able to work with other people, solve problems, manage their time and communicate effectively. The pages which follow show how key competencies relate to your job.

5. Key competencies will help trainees to develop and apply their knowledge and skills in work situations.

6. Knowing about the key competencies and how they relate to activities on-the-job should help trainees to analyse and improve their work performance. It is especially useful to think about applying what you have learnt in one situation to other situations.

Hospitality Operations Traineeship (Kitchen)

1. Collecting, Analysing and Organising Information

- Follow standard recipes or instructions to prepare simple food items under supervision (e.g. clean and prepare vegetables, cut food precisely)
- Read and interpret rosters/manuals/plans/charts

2. Communicating Ideas and Information

- Provide verbal progress reports to supervisor (e.g. report on any ingredients and materials required, predict problems or difficulties that may occur)
- Pass on information and ideas verbally
- Use language appropriate to the workplace
- Respond to feedback

3. Planning and Organising Activities

- Prepare and plate food in the kitchen, as instructed
- Prepare dishes and utensils (e.g. stack , sort and store dishes, utensils and other kitchen items)
- Assemble ingredients considering quality, quantity, type and variety
- Store foodstuffs, as instructed
- Maintain an orderly and hygienic environment (e.g. clean and store equipment according to health and safety regulations and manufacturers' instructions, clean premises and handle waste and linen)
- Follow organised work routines to complete tasks and minimise delays
- Act on feedback provided by the trainer/supervisor
- Organise and complete your tasks according to stated priorities (e.g. complete food preparation before other tasks)
- Manage own time productively (goals and time frames)
- Meet workplace standards
- Identify ways to improve work performance

4. Working With Others and in Teams

- Complete tasks allocated as instructed
- Show respect for fellow workers and owner/manager/supervisor
- Participate in small, informal work groups

- Demonstrate appropriate dress, personal grooming and hygiene
- Show motivation and enthusiasm for the job
- Work cooperatively with others to meet customer requirements
- Always offer support to other staff
- Show an understanding and tolerance of a wide variety of people and/or situations

5. Using Mathematical Ideas and Techniques

- Use estimation in a variety of situations (e.g. quantities of vegetables required for preparation)
- Measure accurately (e.g. read and use measuring devices correctly, quantities of cleaning products)
- Establish current stocks and carry out stock rotation (e.g. use old stock before new stock)

6. Solving Problems

- Use initiative, common sense and determination to complete tasks, within limits of responsibility
- Use manuals to solve problems
- Identify a problem and use appropriate processes to solve it
- Always seek advice when uncertain
- Review outcomes and the problem solving processes used

7. Using Technology

- Recognise and name kitchen equipment (e.g. blenders, food processors, fryer, vitamiser, microwave)
- Prepare and use a range of kitchen equipment (e.g. load, unload and operate dishwasher)
- Clean and store kitchen equipment, as shown
- Apply Occupational Health and Safety standards during working practices (e.g. safe working practices when cleaning, carrying and storing knives)

8. Cultural Understanding

- Work with sensitivity in a multicultural workforce
- Prevent misunderstandings arising from cultural differences
- Work within a customer service culture

CHECKING MY PERFORMANCE:

HOSPITALITY OPERATIONS TRAINEESHIP - KITCHEN

	I'm good at this	I need to improve at this
1. Collecting, Analysing and Organising Information		
Follow standard recipes or instructions to prepare simple food items under supervision (e.g. clean and prepare vegetables, cut food precisely)	❒	❒
Read and interpret rosters/manuals/plans/charts	❒	❒
2. Communicating Ideas and Information		
Provide verbal progress reports to supervisor (e.g. report on any ingredients and materials required, predict problems or difficulties that may occur)	❒	❒
Pass on information and ideas verbally	❒	❒
Use language appropriate to the workplace	❒	❒
Respond to feedback	❒	❒
3. Planning and Organising Activities		
Prepare and plate food in the kitchen, as instructed	❒	❒
Prepare dishes and utensils (e.g. stack , sort and store dishes, utensils and other kitchen items)	❒	❒
Assemble ingredients considering quality, quantity, type and variety	❒	❒
Store foodstuffs, as instructed	❒	❒
Maintain an orderly and hygienic environment (e.g. clean and store equipment according to health and safety regulations and manufacturers' instructions, clean premises and handle waste and linen)	❒	❒
Follow organised work routines to complete tasks and minimise delays	❒	❒
Act on feedback provided by the trainer/supervisor	❒	❒
Organise and complete your tasks according to stated priorities (e.g. complete food preparation before other tasks)	❒	❒
Manage own time productively (goals and time frames)	❒	❒
Meet workplace standards	❒	❒
Identify ways to improve work performance	❒	❒

4. Working With Others and in Teams		
Complete tasks allocated as instructed	❒	❒
Show respect for fellow workers and owner/manager/supervisor	❒	❒
Participate in small, informal work groups	❒	❒
Demonstrate appropriate dress, personal grooming and hygiene	❒	❒
Show motivation and enthusiasm for the job	❒	❒
Work cooperatively with others to meet customer requirements	❒	❒
Always offer support to other staff	❒	❒
Show an understanding and tolerance of a wide variety of people and/or situations	❒	❒
5. Using Mathematical Ideas and Techniques		
Use estimation in a variety of situations (e.g. quantities of vegetables required for preparation)	❒	❒
Measure accurately (e.g. read and use measuring devices correctly, quantities of cleaning products)	❒	❒
Establish current stocks and carry out stock rotation (e.g. use older stock before new stock)	❒	❒
6. Solving Problems		
Use initiative, common sense and determination to complete tasks, within limits of responsibility	❒	❒
Use manuals to solve problems	❒	❒
Identify a problem and use appropriate processes to solve it	❒	❒
Always seek advice when uncertain	❒	❒
Review outcomes and the problem solving processes used	❒	❒
7. Using Technology		
Recognise and name kitchen equipment (e.g. blenders, food processors, fryer, vitamiser, microwave)	❒	❒
Prepare and use a range of kitchen equipment (e.g. load, unload and operate dishwasher)	❒	❒
Clean and store kitchen equipment, as shown	❒	❒
Apply Occupational Health and Safety standards during working practices (e.g. safe working practices when cleaning, carrying and storing knives)	❒	❒
8. Cultural Understanding		
Work with sensitivity in a multicultural workforce	❒	❒
Prevent misunderstandings arising from cultural differences	❒	❒
Work within a customer service culture	❒	❒

The three main areas where I want to improve are:

1. _____

2. _____

3. _____

Signature: _____ **Date:** _____

CHECKING PERFORMANCE:
HOSPITALITY OPERATIONS TRAINEESHIP - KITCHEN

Trainee's Name: _____

	Trainee is good at this	Trainee needs to improve at this
1. Collecting, Analysing and Organising Information		
Follow standard recipes or instructions to prepare simple food items under supervision (e.g. clean and prepare vegetables, cut food precisely)	❐	❐
Read and interpret rosters/manuals/plans/charts	❐	❐
2. Communicating Ideas and Information		
Provide verbal progress reports to supervisor (e.g. report on any ingredients and materials required, predict problems or difficulties that may occur)	❐	❐
Pass on information and ideas verbally	❐	❐
Use language appropriate to the workplace	❐	❐
Respond to feedback	❐	❐
3. Planning and Organising Activities		
Prepare and plate food in the kitchen, as instructed	❐	❐
Prepare dishes and utensils (e.g. stack , sort and store dishes, utensils and other kitchen items)	❐	❐
Assemble ingredients considering quality, quantity, type and variety	❐	❐
Store foodstuffs, as instructed	❐	❐
Maintain an orderly and hygienic environment (e.g. clean and store equipment according to health and safety regulations and manufacturers' instructions, clean premises and handle waste and linen)	❐	❐
Follow organised work routines to complete tasks and minimise delays	❐	❐
Act on feedback provided by the trainer/supervisor	❐	❐
Organise and complete your tasks according to stated priorities (e.g. complete food preparation before other tasks)	❐	❐
Manage own time productively (goals and time frames)	❐	❐
Meet workplace standards	❐	❐

BEST COPY AVAILABLE

Identify ways to improve work performance	❒	❒
4. Working With Others and in Teams		
Complete tasks allocated as instructed	❒	❒
Show respect for fellow workers and owner/manager/supervisor	❒	❒
Participate in small, informal work groups	❒	❒
Demonstrate appropriate dress, personal grooming and hygiene	❒	❒
Show motivation and enthusiasm for the job	❒	❒
Work cooperatively with others to meet customer requirements	❒	❒
Always offer support to other staff	❒	❒
Show an understanding and tolerance of a wide variety of people and/or situations	❒	❒
5. Using Mathematical Ideas and Techniques		
Use estimation in a variety of situations (e.g. quantities of vegetables required for preparation)	❒	❒
Measure accurately (e.g. read and use measuring devices correctly, quantities of cleaning products)	❒	❒
Establish current stocks and carry out stock rotation (e.g. use older stock before new stock)	❒	❒
6. Solving Problems		
Use initiative, common sense and determination to complete tasks, within limits of responsibility	❒	❒
Use manuals to solve problems	❒	❒
Identify a problem and use appropriate processes to solve it	❒	❒
Always seek advice when uncertain	❒	❒
Review outcomes and the problem solving processes used	❒	❒
7. Using Technology		
Recognise and name kitchen equipment (e.g. blenders, food processors, fryer, vitamiser, microwave)	❒	❒
Prepare and use a range of kitchen equipment (e.g. load, unload and operate dishwasher)	❒	❒
Clean and store kitchen equipment, as shown	❒	❒
Apply Occupational Health and Safety standards during working practices (e.g. safe working practices when cleaning, carrying and storing knives)	❒	❒
8. Cultural Understanding		
Work with sensitivity in a multicultural workforce	❒	❒
Prevent misunderstandings arising from cultural differences	❒	❒
Work within a customer service culture	❒	❒

The three main areas where the trainee needs to improve are:

1. _____

2. _____

3. _____

Signature: _____ **Date:** _____

Hospitality

Medium-sized Hotel (B)
Site No 17
Hospitality

Context

Operated as a family business for 13 years, this inner city hotel employs 30 people. Facilities include a large public bar, bottle shop and gaming facilities. There are no current trainees, though an ex-trainee is employed. No one at the site has trainer or assessor qualifications. Responsibility for training has been retained by the Licensee. Since the suspension of he Training Guarantee Legislation there has been little structured training at the site, no training documents are used and there was no familiarity with the key competencies. When trainees are employed the training is informal and an effort is made to link the trainee's tasks with his/her off-the-job training experiences.

Tool or approach

The items introduced at this site were:

- Using Key Competencies to Improve Training and Job Performance: Hospitality Operations (Food and Beverage) (Attachment 1)
- Using Critical Incidents in On-the-Job Training
- Problem Based Learning

Copies of the second and third tools are provided as attachments to Site Report 14.

Reasons for selection

The Licensee was interested in the potential of the key competencies as a strategy and framework for upgrading on-the-job training at the site in an integrated way. He was also interested in introducing a process that would provide explicit feedback to employees on work performance. The set of tools provided: a way of introducing the key competencies to the site using language and activities relevant to the industry; and training techniques which fitted with the 1:1 training and buddy systems used at the site, whilst making existing processes more explicit. For example, the Licensee used a form of problem based learning but the process was used in an informal way to assess the initiative, perseverance and problem-solving skills of trainees and the process was not discussed with the trainee.

Piloting

The instruments were developed and introduced over a series of four visits. The Licensee provided positive feedback but there was no time to actually use the tools in a meaningful pilot. Further feedback could be obtained in early 1996.

Feedback

The Licensee was very positive about the tools and intends to use them with all operative level employees, not just trainees. He plans to use the Critical Incident sheet for 'major incidents', viewing it as a practical and workable process for use after a cooling off period, when reflection is possible. The Using Key Competencies to Improve Training and Job Performance: Hospitality Operations (Food and Beverage) tool was also considered workable as the sheets could be completed and discussed quickly, while covering all the core aspects of the job of the food and beverage attendant. The approach used in this tool was considered preferable to the use of a tool which included all the key competencies elements, a detailed listing of all of the tasks of a food and beverage attendant, and/or a response format which required the Licensee and employee to provide additional written information.

Suggested improvements

Nil at this stage. Would be prepared to provide further feedback after he has trialed the materials, particularly the Problem Based Learning tool, with a number of employees.

Other relevant comments

The Licensee indicated that, conceptually, he could see the value of the key competencies during the first meeting but doubted their usefulness 'in practice'. Access to the tools developed during this process has demonstrated how the key competencies could be used to introduce more formal training delivery, assessment and reporting practices which were aligned with the needs of the hotel. The Critical Incident and Problem Based Learning sheets were considered important in making the role of the supervisor/trainer more structured and explicit. If made available, he would use a manual or other material on integration of the key competencies in on-the-job training.

Observations

The Licensee was interested in the tools/approaches for two reasons: improving the approach to training at the site; and improving feedback on performance within the context of unfair dismissal legislation. Both benefits should be marketed to employers as a reason for incorporating the key competencies. Insufficient time was available for adequate piloting and review of the instruments. The Licensee would be prepared to provide further feedback in early 1996.

Attachment 1

Using Key Competencies to Improve Training and Job Performance: Hospitality Operations (Food and Beverage)

WHAT EMPLOYEES NEED TO KNOW

ABOUT

KEY COMPETENCIES

1. Key competencies are considered important by business and industry, education and training providers and governments. Many employers now place as much value on personal and social skills as on technical competence.

2. Eight key competencies have been identified as important. They are

   Collecting, Analysing and Organising Information
   Communicating Ideas and Information
   Planning and Organising Activities
   Working With Others and in Teams
   Using Mathematical Ideas and Techniques
   Solving Problems
   Using Technology
   Cultural Understanding

3. Key competencies are inter-related and overlap. They are not totally separate from each other.

4. Key competencies are not limited to specific jobs but can be applied to all industries and occupations. Key competencies recognise that all employees (including trainees) must be able to work with other people, solve problems, manage their time and communicate effectively. The pages which follow show how key competencies relate to your job.

5. Key competencies will help employees to develop and apply their knowledge and skills in work situations.

6. Knowing about the key competencies and how they relate to activities on-the-job should help employees to analyse and improve their work performance. It is especially useful to think about applying what you have learnt in one situation to other situations.

CHECKING MY PERFORMANCE:

HOSPITALITY OPERATIONS - FOOD AND BEVERAGE

	I'm good at this	I need to improve at this
1. Collecting, Analysing and Organising Information		
Read and interpret rosters, manuals, plans and diaries	❒	❒
Use correct procedures for taking orders (e.g. memorisation or complete order documentation)	❒	❒
Give and follow simple routine instructions	❒	❒
Gather, record and convey simple and routine information (e.g. on products)	❒	❒
Check supplies of bar consumables (e.g. alcohol, cigarettes)	❒	❒
Follow written instructions (e.g. codes for products from different bars, memos on policies)	❒	❒
Determine needs of patrons (e.g. those who want to finish up and move on, those who want to linger)	❒	❒
2. Communicating Ideas and Information		
Use appropriate customer approach techniques (e.g. eye contact, greeting, positive manner, apply principles of service)	❒	❒
Welcome and farewell customers	❒	❒
Respond to customer orders and requests	❒	❒
Advise customers (e.g. food and beverages, service periods)	❒	❒
Participate in staff meetings	❒	❒
Report breakdowns or safety hazards	❒	❒
Use language appropriate to the workplace	❒	❒
Fill out checklist at the end of shift indicating tasks for next shift	❒	❒
Interact with customers using the telephone	❒	❒
3. Planning and Organising Activities		
Prepare the dining room prior to service (e.g. equipment, furniture, decorations, napkins)	❒	❒
Set up tables and consumables prior to service (e.g. glassware, coffee and tea service)	❒	❒
Prepare waiter stations	❒	❒

Prepare the bar for service (check stock levels/restock, prepare garnishes, prepare bar layout as instructed, balance till and prepare float)	❒	❒
Take and process orders according to establishment procedures	❒	❒
Serve and clear food and drinks	❒	❒
Clear and re-lay tables	❒	❒
Prepare and serve a variety of drinks (e.g. select appropriate glassware, use appropriate garnishes)	❒	❒
Follow organised work schedules to complete tasks	❒	❒
Act on feedback provided by the trainer/supervisor	❒	❒
Prioritise a number of tasks into a workable sequence for completion	❒	❒
Maintain an orderly work environment	❒	❒
Identify ways to improve work performance	❒	❒
4. Working With Others and in Teams		
Participate as an effective member of the establishment (e.g. complete assigned tasks within designated time, use correct procedures)	❒	❒
Help out others on the shift as required	❒	❒
Complete some preparation for the next shift	❒	❒
Adapt to workplace requirements	❒	❒
Show respect for fellow workers and owner/manager/supervisor	❒	❒
Demonstrate appropriate dress, personal grooming and hygiene	❒	❒
Show an understanding and tolerance of a wide variety of people and/or situations	❒	❒
5. Using Mathematical Ideas and Techniques		
Prepare and finalise accounts	❒	❒
Handle cash accurately (e.g. count out change)	❒	❒
Calculate discounts	❒	❒
Estimate by rounding up to check that the bill is correct	❒	❒
Estimate customer numbers and requirements in relation to availability of consumables	❒	❒
Under supervision, set up cash register and/or complete cash reconciliation as requested	❒	❒
Add and subtract for basic stocktake	❒	❒
Mark up stock prices (e.g. liquor tax)	❒	❒
Fill out time sheet	❒	❒
6. Solving Problems		
Demonstrate an understanding of customer needs and wants	❒	❒

Deal with customer problems (e.g. incorrect change, incorrect order, expectations not being met)	❒	❒
Deal with problem customers, or refer problems to supervisor	❒	❒
Work with other staff within space constraints on busy nights	❒	❒
Use initiative to complete tasks	❒	❒
Deal with equipment breakdowns (e.g. ice machine)	❒	❒
Use manuals to solve operational difficulties	❒	❒
Use common sense to complete challenging tasks	❒	❒
Seek information and/or assistance when unsure	❒	❒
7. Using Technology		
Recognise and name bar equipment (e.g. pourers, corkscrews, post mix systems)	❒	❒
Operate workplace equipment safely and effectively (e.g. cash register, calculator, drink taps, electronic nip dispenser, dishwasher, coffee making machine, stereo equipment)	❒	❒
Prepare, clean and maintain workplace equipment	❒	❒
Tap a keg	❒	❒
Process credit card payments	❒	❒
Operate EFTPOS facilities	❒	❒
Operate gaming facilities (e.g. process central credit units)	❒	❒
Operate Pubtab facilities	❒	❒
8. Cultural Understanding		
Work with sensitivity in a multicultural workforce	❒	❒
Prevent misunderstandings arising from cultural differences (e.g. listening carefully to customer orders)	❒	❒
Recognise the nationality/cultural background of customers and offer service which meets their needs and expectations	❒	❒
Work within a customer service culture	❒	❒
Recognise and work within the atmosphere of the workplace	❒	❒

The three main areas where I want to improve are:

1. _____

2. _____

3. _____

Employee's Name: _____

Signature: _____ **Date:** _____

CHECKING EMPLOYEE PERFORMANCE:
HOSPITALITY OPERATIONS - FOOD AND BEVERAGE

Employee's Name: _____

	Employee is good at this	Employee needs to improve at this
1. Collecting, Analysing and Organising Information		
Read and interpret rosters, manuals, plans and diaries	❒	❒
Use correct procedures for taking orders (e.g. memorisation or complete order documentation)	❒	❒
Give and follow simple routine instructions	❒	❒
Gather, record and convey simple and routine information (e.g. on products)	❒	❒
Check supplies of bar consumables (e.g. alcohol, cigarettes)	❒	❒
Follow written instructions (e.g. codes for products from different bars, memos on policies)	❒	❒
Determine needs of patrons (e.g. those who want to finish up and move on, those who want to linger)	❒	❒
2. Communicating Ideas and Information		
Use appropriate customer approach techniques (e.g. eye contact, greeting, positive manner, apply principles of service)	❒	❒
Welcome and farewell customers	❒	❒
Respond to customer orders and requests	❒	❒
Advise customers (e.g. food and beverages, service periods)	❒	❒
Participate in staff meetings	❒	❒
Report breakdowns or safety hazards	❒	❒
Use language appropriate to the workplace	❒	❒
Fill out checklist at the end of shift indicating tasks for next shift	❒	❒
Interact with customers using the telephone	❒	❒
3. Planning and Organising Activities		
Prepare the dining room prior to service (e.g. equipment, furniture, decorations, napkins)	❒	❒
Set up tables and consumables prior to service (e.g. glassware, coffee and tea service)	❒	❒
Prepare waiter stations	❒	❒

Prepare the bar for service (check stock levels/restock, prepare garnishes, prepare bar layout as instructed, balance till and prepare float)	❒	❒
Take and process orders according to establishment procedures	❒	❒
Serve and clear food and drinks	❒	❒
Clear and re-lay tables	❒	❒
Prepare and serve a variety of drinks (e.g. select appropriate glassware, use appropriate garnishes)	❒	❒
Follow organised work schedules to complete tasks	❒	❒
Act on feedback provided by the trainer/supervisor	❒	❒
Prioritise a number of tasks into a workable sequence for completion	❒	❒
Maintain an orderly work environment	❒	❒
Identify ways to improve work performance	❒	❒
4. Working With Others and in Teams		
Participate as an effective member of the establishment (e.g. complete assigned tasks within designated time, use correct procedures)	❒	❒
Help out others on the shift as required	❒	❒
Complete some preparation for the next shift	❒	❒
Adapt to workplace requirements	❒	❒
Show respect for fellow workers and owner/manager/supervisor	❒	❒
Demonstrate appropriate dress, personal grooming and hygiene	❒	❒
Show an understanding and tolerance of a wide variety of people and/or situations	❒	❒
5. Using Mathematical Ideas and Techniques		
Prepare and finalise accounts	❒	❒
Handle cash accurately (e.g. count out change)	❒	❒
Calculate discounts	❒	❒
Estimate by rounding up to check that the bill is correct	❒	❒
Estimate customer numbers and requirements in relation to availability of consumables	❒	❒
Under supervision, set up cash register and/or complete cash reconciliation as requested	❒	❒
Add and subtract for basic stocktake	❒	❒
Mark up stock prices (e.g. liquor tax)	❒	❒
Fill out time sheet	❒	❒
6. Solving Problems		
Demonstrate an understanding of customer needs and wants	❒	❒

Deal with customer problems (e.g. incorrect change, incorrect order, expectations not being met)	❒	❒
Deal with problem customers, or refer problems to supervisor	❒	❒
Work with other staff within space constraints on busy nights	❒	❒
Use initiative to complete tasks	❒	❒
Deal with equipment breakdowns (e.g. ice machine)	❒	❒
Use manuals to solve operational difficulties	❒	❒
Use common sense to complete challenging tasks	❒	❒
Seek information and/or assistance when unsure	❒	❒
7. Using Technology		
Recognise and name bar equipment (e.g. pourers, corkscrews, post mix systems)	❒	❒
Operate workplace equipment safely and effectively (e.g. cash register, calculator, drink taps, electronic nip dispenser, dishwasher, coffee making machine, stereo equipment)	❒	❒
Prepare, clean and maintain workplace equipment	❒	❒
Tap a keg	❒	❒
Process credit card payments	❒	❒
Operate EFTPOS facilities	❒	❒
Operate gaming facilities (e.g. process central credit units)	❒	❒
Operate Pubtab facilities	❒	❒
8. Cultural Understanding		
Work with sensitivity in a multicultural workforce	❒	❒
Prevent misunderstandings arising from cultural differences (e.g. listening carefully to customer orders)	❒	❒
Recognise the nationality/cultural background of customers and offer service which meets their needs and expectations	❒	❒
Work within a customer service culture	❒	❒
Recognise and work within the atmosphere of the workplace	❒	❒

The three main areas where the employee needs to improve are:

1. _____

2. _____

3. _____

Licensee's Signature: _____

Date: _____

Large Catering Company
Site No 18
Hospitality

Context

Employing approximately 800 people in NSW (and c. 2,600 nationally), this catering company has undergone rapid growth during the last five years. Employees are geographically dispersed, usually working in small teams. Most are employed on a permanent part-time or casual basis. The organisation does not have a strong human resources or training culture. Although accredited work-based training could be offered by accredited personnel, this is not currently feasible given 'the lack of bodies and bucks' for training. The current training focus for non-managerial personnel involves: short competency-based entry level and technical skills training together with train the trainer and workplace assessor training, to increase the focus on on-the-job training within the organisation. Four trainees are currently employed, with an increase likely in 1996.

Tool or approach

Three approaches were used:

- a key competencies mapping exercise of four non-accredited and eleven accredited modules, including an examination of all lessons plans, teaching/learning resources and assessment tools;
- Using Critical Incidents in On-the-job Training; and
- Problem Based Learning.

Copies of the critical incident and problem based learning sheets are included in the initial Hospitality industry case study report, Medium-sized Hotel (A).

Reason for selection

The Training Manager was initially critical of the language of the key competencies and their perceived lack of clarity, noting the need to 'demystify' the key competencies through the provision of material which was meaningful and useful to practitioners. The Training Manager had a general familiarity with the key competencies and the mapping exercise was undertaken to provide information on the relationship between the key competencies and known training modules. Analysis occurred at the key competencies level, rather than at the

element level because a broad awareness of the relationship was considered more appropriate by the Training Manager. The Critical Incident and Problem Based Learning sheets were devised because they were aligned with the organisation's priorities and could be integrated into train the trainer programs as strategies which would facilitate improved training practices in the workplace.

The piloting process

- During the mapping exercise an analysis of all materials in the eleven accredited modules was undertaken by the researcher. Information on the internal modules was provided by the Training Manager via an interview. The completed one page 'map' was sent to the Training Manager and then discussed at the final meeting.
- The Problem Based Learning and Critical Incident sheets were discussed with the Training Manager, who then liaised with a second Training Manager based in another state who was about to conduct an internal train the trainer program. This Training Manager chose to slightly rewrite the tools, for inclusion in the organisation's training package. Feedback from both Training Managers and the workplace trainers who participated in the course was provided to the researcher.

Feedback

- The mapping exercise provided the Training Manager with 'at a glance' information on the relationship between known training resources and the key competencies which she plans to use to 'call out' the presence of the key competencies to trainers and trainees. The exercise also confirmed existing 'gut feelings' that there was a need to increase the focus on key competencies 5, 7 and 8 in entry level training within the organisation. Although the mapping exercise was useful, the Training Manager commented that it was unlikely that she would have completed this analysis (which took approximately four hours) because of a lack of time and competing priorities.
- The Critical Incident and Problem Based Learning sheets were termed 'a good idea' which assisted in 'turning on the light' by encouraging workplace trainers to view on-the-job training as more than demonstrations and mini lectures. The development of a range of tools similar to these sheets was advocated. Interestingly, when the sheets were piloted within the organisation specific reference to the key competencies was deleted.

Suggested improvements

Further paring back and simplification of the tools was considered desirable to maximise the acceptance of the tools by workplace trainers and prevent 'the shutters from going down'.

Other comments/observations

As most of the training material used at this site is outsourced, the Training Manager emphasised the importance of publicly funded training resource development projects and both DEET and Tourism Training Australia focusing on improving on-the-job rather than classroom training in industry; and integrating key competencies into this material. She also suggested that, with a complex subject such as integrating the key competencies into on-the-job training, that it may be desirable to produce 'layers' of resource materials. This may involve materials for different audiences, such as Training Managers and workplace trainers, prepared with different types and quantities of information.

Observations

A series of three meetings over a nine week period enabled a transition from conceptualising about the key competencies (and their potential limitations) to recognising their potential for refocussing and improving entry level workplace training. The Training Manager plans to use the Problem Based Learning and Critical Incident sheets in a train the trainer program in late 1995, then obtain further feedback from workplace trainers on their usefulness during debriefing sessions. Material on Using Key Competencies to Cluster Training Activities and Review Performance developed for the small restaurant case study is also being used as a discussion point with chefs at one site. The Training Manager indicated that she would have liked to have had more time for the piloting of materials and an active role in their refinement, but this has not been possible within the project time frame. Issues also remain concerning how explicitly the key competencies can be integrated into workplace training if the language and tools that will be acceptable to workplace trainers needs to be simplified and very brief in order to gain acceptance.

Medium-sized fabrication
Site No 19
Metals

Context

This is a small metal fabrication workshop in western Sydney, employing 20 staff including three metal fabrication apprentices. The operation is roughly divided into two streams. One focuses on airconditioning ducting made from galvanised metal sheeting. The other on stainless steel products, primarily for the hospitality industry. Operations include cutting, folding, welding and drilling. The company is currently combining both operational streams under one roof to allow maximum utilisation of equipment. They employ two draftspersons who determine product specifications in conjunction with the clients, and draw up detailed plans for each job. These plans are then converted to working diagrams at the shopfloor level by the foreman to simplify the production process. Apprentices are started on the ducting work before moving onto the stainless steel section of the site.

There is not a strong training culture within the organisation. Production is the major focus with the demands of work being judged as more important than training. Whilst the rhetoric of management strongly supports training, there is no system or particular approach to on-the-job training of the apprentices. In place is the traditional 'monkey see monkey do' approach with the foreman being responsible for the appropriate work performance of the apprentices. None of the staff have undergone train the trainer or assessor training, and there is no documentation relating to the on-the-job training of the apprentices. The key competencies are not made explicit within the current apprentice training.

Feedback on the key competencies

Whilst the company was involved in the mapping phase of the key competencies project, the foreman had no knowledge of the key competencies. He could see the value of the key competencies but noted that there should be an explicit reference to the workplace in the Cultural Understanding descriptor. It was also strongly suggested that schools and TAFE were responsible for such matters. The apparent complexity of the key competencies and associated assessment and reporting were seen as too complex an issue to be introduced at the shopfloor level. Mention was also made of the need to provide contextualised descriptions as the detailed elements for each descriptor were seen to be too complex.

Tools or approach and piloting process

Two products were left for trialing, namely the critical incident exercise, (see Site Report 14) and questioning techniques related to stainless steel pattern making and welding (see Attachment). A familiarisation process was conducted where one apprentice and his supervisor were briefed by the foreman. Over the trialing period, the critical incident tool was not trialed. The questioning techniques were used as means of developing the conceptual knowledge of the apprentice, so that the supervisor could be sure that the apprentice knew why he was doing a task in a particular way, rather than simply following instructions.

The supervisor involved valued the exercise as it gave him more responsibility for training the apprentice. He felt that such an approach would be useful if sets of questions were developed for each of the functional areas in the workplace.

However, a general lack of enthusiasm towards training at the shopfloor level meant that a considerable time lag resulted from gaining access to the site within the project timeline.

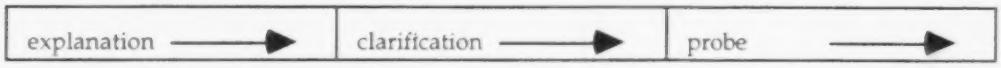
Observations and issues

- professional development of leading hands in on-the-job training, let alone the key competencies.
- unsophisticated work practices not supportive of key competency development.
- need for contextualised key competency descriptors.
- the need to promote the key competencies as not being some form of surrogate schooling.

Attachment to Site Report 19

Sheet Metal Questioning Techniques

The basis for these approaches involves the learner doing the work with the 'expert other' providing guidance. Questioning dialogues usually comprise three stages with the learner providing an explanation, clarifying the explanation, and responding to further probing questions that arise from their clarification. So the process is:



For example:

1.

Q. Why are working drawings made up from the plans ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What would you do if you can't interpret the plans.....(probe)

A. response provided by learner.....

2.

Q. When do you sometimes notch out parts of a section by hand ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What happens if you're not sure if it needs to be notched out..... (probe)

A. response provided by learner.....

3.

Q. What's the best size of the weld pool ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What happens if the colour of the pool changes while you're working..... (probe)

A. response provided by learner.....

4.

Q. Why do we grind edges on pieces before polishing ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What type of belts are used on the grinder ?.....(probe)

A. response provided by learner.....

5.

Q. What are the major conical shapes used in stainless steel fabrication ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What happens if you're not sure which shape is the correct one ?..... (probe)

A. response provided by learner.....

6.

Q. When do you sometimes notch out parts of a section by hand ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What happens if you're not sure if it needs to be notched out..... (probe)

A. response provided by learner.....

Electronic equipment manufacturer
Site No 20
Metals

Context

The company is a medium sized electronics assembly plant at Penrith where they make televisions for the Australasian market. It is part of the Matsushita multinational conglomerate which is based in Japan. They have a workforce of close to 150 staff that include tradespeople and semi skilled workers. The production process is assembly line based with workers organised into functional teams. Changes over the last decade have seen the introduction of considerable technology related to product quality assurance.

The organisation has a designated human resources section with responsibility for training. Whilst the major training focus is at the induction stage, the company is in the process of putting supervisors/team leaders through train the trainer and workplace training programs as a precursor to the introduction of more structured workplace training arrangements. The induction training includes a customised soldering program that aligns with particular modules of the Engineering Production Certificate (EPC) that was developed in conjunction with the local TAFE college. The company is registered as an accredited provider of this course with the State accreditation agency (VETAB). The program includes a diagnostic test for literacy and numeracy, with additional training opportunities with external providers made available for those staff with a need in those areas. Current on-the-job training practices are unstructured at this stage, with supervisors and team leaders primarily responsible for guided instruction on an as required basis.

The various functional units are guided by detailed work sheets that were recently mapped against the metals industry draft competency standards during their recent fieldtesting. That exercise was seen as a precursor to the development of more specific competency based job descriptions that would drive future workplace training initiatives.

Feedback on the key competencies

Initial discussions considered the meaning and relevance of the key competencies. Mention was made of the need for contextualised descriptors that related to the workplace, and the absence of an explicit reference to work in the cultural understanding descriptor. All other competencies were considered important in light of the work organisation and skill

requirements of the employees. The company's recent involvement with the trialing of the metals standards also led to an understanding that the key competencies were covered by the standards from which any curriculum was derived. As the discussion evolved, it was acknowledged that the development of the key competencies would rely on the training processes employed. In response to general questioning, they stated that separate assessing and credentialling of the key competencies may be possible although it would require upskilling of supervisors/team leaders and additional work that would detract from production time. The company was pleased to be involved but saw the key competencies as a minor priority given the ongoing work on standards development, and the assumption that the key competencies were covered therein. The general feeling was that the company wanted to improve their on-the-job training practices, but didn't want to be weighed down by another government agenda item that complicated training arrangements.

Tool or approach and reason for selection

The Human Resources Manager identified the electronic assembly/PCB insertion area and the packaging dispatch area as those where key competency related intervention would be of use. Two products were left with him, namely the critical incident exercise, (see Site Report 14) and the questioning technique for mentored delivery (see Attachment). These were developed by the researcher in consultation with the relevant section heads.

Piloting and feedback on the tools

Trialing involved a familiarisation session with two of the HR staff, who then introduced the activities to the leading hands individual workers in the two different sections of the plant. The critical incident exercise was seen to enable staff to consider their work in a different way. It allowed problems to be reconceptualised and solved by the use of the key competencies as focal points for the discussions. The firm has subsequently developed additional tools for other functional units within the factory.

Observations and issues

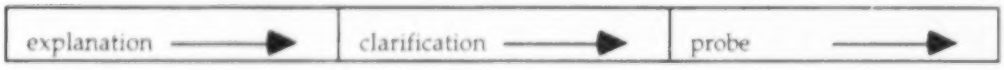
- the need for professional development of leading hands and section heads.
- the out of production time required for this to happen.
- resistance from workers who believe they are already competent ie: why do we have to do this, I do my job OK.
- understanding the generic descriptors in terms of the work at the site.

- the link between the key competencies and developing deeper conceptual knowledge of a particular task.
- the need for an explicit workplace reference within the cultural understanding descriptor.

Attachment to Site Report 20

Questioning Techniques

The basis for these approaches involves the learner doing the work with the 'expert other' providing guidance. Questioning dialogues usually comprise three stages with the learner providing an explanation, clarifying the explanation, and responding to further probing questions that arise from their clarification. So the process is:



For example:

1.

Q. Why do you take anti static precautions when inserting parts in PCB's ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What are the anti-static precautions ?.....(probe)

A. response provided by learner.....

2.

Q. Why do you make sure polarity is matching when inserting parts in PCB's ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What happens if the parts are not marked accordingly..... (probe)

A. response provided by learner.....

3.

Q. How do you verify if the parts are correct ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What happens if you have parts left over..... (probe)

A. response provided by learner.....

4.

Q. Why do you use the chute former when forming I.C. legs ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What would you do if the legs wouldn't form.....(probe)

A. response provided by learner.....

5.

Q. What things do you need to set up when there is a model change ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What happens if don't have the correct parts..... (probe)

A. response provided by learner.....

6.

Q. What are the quality requirements for soldering ? (explanation)

A. explanation provided by learner.....

Q. So, is what you are saying..... (clarification)

A. clarification provided by learner.....

Q. What happens if a soldered joint breaks further down the line..... (probe)

A. response provided by learner.....

Large Metal Fabrication Company
Site No 21
Metals

Context

This large company in Sydney's south-west manufactures, supplies and installs garage doors of all kinds. The company has a staff of 250. The company is currently restructuring based on National Competency Standards. Training modules are based on the National Competency Standards. Training is largely on-the-job. Formal training is replacing the previous situation of informal training. A modular supervisor training package is used. There are about four trainers (supervisors/leading hands). They are not certificated trainers, but three of them have done a TAFE Workplace Assessor course. The Safety and Training Officer, who is currently completing a formal tertiary level course in Human Resource Development, is aware of the key competencies and their significance for training.

Tool or approach

After discussing various options, it was decided to obtain the views of relevant staff on how the key competencies related to safety in their own workplace. This data would then be mapped against the detailed elements of the key competencies (as set out in Ministry of Education and Youth Affairs (NSW) Working Document Draft 4B, Key Competencies Project Oct. 1994). From the results of this mapping exercise some new training ideas/strategies for safety in the workplace would be devised and trialed.

The company has at this site a union consultative committee (eight members) with representatives from each of the work areas at the site. The members of the consultative committee were interviewed by the Safety and Training Officer. Each member of the committee was asked to comment on the role of each of the key competencies with respect to safety in their work area. (They had been given in advance an outline of the key competencies and their elements and been asked to think about them in relation to safety in their own workplace). The results are given below.

Reasons for selection

While the company has a safety program in place, there are still a number of accidents each year resulting in some staff being off work on workers' compensation or involved in rehabilitation programs. In order to produce something useful to the company, it was agreed that the Safety and Training Officer and the researcher would further investigate key competencies and safety with the aim of identifying some new training ideas/strategies.

This chosen approach was seen as a good way of contextualising the role of key competencies in safe working in particular workplaces. This is an instance of the principle, supported by this research project, that significant work activities typically feature both specific work skills and key competencies (usually more than one) as well as aspects of the particular work context. It was expected that any new training ideas/strategies developed from this work would reflect this principle.

Results

The various generic descriptors of the key competencies are listed below together with the equivalent OH&S competency descriptors identified in the interviews.

NSW Key Competencies		OH&S Equivalent Competencies
1	**Collecting, analysing and organising information**	**1 Collecting, analysing and organising OH&S information**
1	locate and gather information from a range of sources relative to the task	locate and gather OH&S information from a range of relevant sources
2	analyse information and organise it into a logical order	identify and organise the OH&S information that is most relevant to you
3	present information for a particular purpose using a method appropriate to the needs of the audience	those who are sources of OH&S information present it to others using a method appropriate to the needs of the audience
4	evaluate the quality, validity and relevance of information	relate OH&S information to your own work situation
5	evaluate sources of and methods used to obtain information	identify relevant sources of OH&S information
		The 'range of relevant sources' of information includes the safety officer, the first aider, member of the safety committee, chargehand, supervisor, etc. Also relevant documents
2	**Communicating ideas and information** using both verbal and nonverbal modes of communication	**2 Communicating OH&S ideas and information** using both verbal and nonverbal modes of communication
1	participate effectively in the two-way communication process	participate effectively in the two-way communication process on OH&S matters
2	identify purpose and audience	identify purpose and audience for OH&S information
3	respond to the social and cultural context of the communication	respond to the social and cultural context of the communication, e.g. multi-language signs,
4	choose an appropriate form and style	choose an appropriate form, e.g. verbal or non-verbal, and style, e.g. use simpler language where needed
5	communicate clearly, concisely and coherently	communicate clearly, concisely and coherently, e.g., demonstrate dangerous situations, mount flashing warning lights on equipment, etc.
6	give and respond to the feedback during the context of the communication	give and respond to the feedback during the context of the communication of OH&S information
7	check accuracy and appropriateness of the communication and revise where necessary	those who are sources of OH&S information check the accuracy and appropriateness of its communication and revise where necessary
		Safety information should be stressed at Small Group Improvement Activities (SGIA) meetings. Trainees need to be supervised to ensure safe working.
3	**Planning and organising activities**	**3 Planning and organising to work safely**
1	set goals	plan and organise time and resources to work safely
2	respond to factors affecting priorities and determine priorities	monitor own performance on safety
3	establish an appropriate process to both achieve goals and meet deadlines	experienced hands monitor team performance on safety
4	organise activities, establish time frames, implement and monitor the plan	
5	evaluate planning and organising (including own performance)	
4	**Working with others and in teams**	**4 Working with others and in teams for safety**
1	establish the purpose of objective of working with others or in a team	display awareness of how other team members are working
2	identify different roles and perspectives when working with others	experienced hands provide assistance to team members who require it
3	negotiate and agree on roles and perspectives when working with others	new team members are gradually inducted into the working of the team to ensure safety

4	takes responsibility for own performance when working with others	
5	works cooperatively within a given time frame to achieve a shared objective	
6	evaluate strategies and their effectiveness in achieving a shared goal	
5	**Using mathematical ideas and techniques**	5 **Using mathematical ideas and techniques**
1	establishes a clear sense of purpose for using mathematical ideas and techniques	safety statistics used to target potential safety problems
2	select and apply appropriate ideas, procedures and techniques	clear and simple safety graphs used for training
3	judge precision and accuracy	
4	evaluate solutions	
5	interpret the solution and evaluate its practical application	
6	**Solving problems**	6 **Solving OH&S problems**
1	identify, clarify and frame problems	identify, clarify and frame actual OH&S problems
2	use a recognised strategy to draw on and adapt a range of processes to solve a problem	either solve problem or obtain necessary help to do so
3	anticipate problems and plan suitable response strategies	show awareness of possible OH&S problems and their solutions
4	evaluate outcomes and the problem solving process	
7	**Using technology**	
1	choose and use appropriate technology in a given context	
2	use scientific and technological principles and practices	understand role and function of technology in own work area
3	apply stated OH&S standards when using technology	apply stated OH&S standards when using technology
4	uses knowledge, processes and skills to apply technology to a task	follows appropriate procedures when using technology
5	evaluates the use made of the technology	
8	**(Using) cultural understandings** (apply to achievement of common goals)	
1	identify elements of cultural cohesion and diversity	
2	recognise Australia's Aboriginal heritage, political, social, economic and cultural traditions	
3	negotiate the diverse cultures in a group or organisation so as to achieve a common purpose	negotiate the diverse cultures in a group or team so as to achieve safe work practices
4	identify how individuals and groups are interdependent on others	
5	interact with sensitivity, empathy and tolerance	interact with sensitivity, empathy and tolerance
6	demonstrate an appreciation of the rights and responsibilities of individuals, groups and organisations within a local, national and global context	
7	evaluate the extent of the use made of cultural understanding in a given situation	recognise the impact of cultural differences on OH&S matters

As can be seen from these results, in three cases (key competencies 1, 2, and 6) the OH&S competency descriptors derived from the interviews closely matched the generic descriptors. In the other cases (key competencies 3, 4, 5, 7, and 8) the OH&S competency descriptors derived from the interviews did not closely match the generic descriptors. However, as the results also show, some related aspects of these key competencies were significant for OH&S.

In brief, the key competencies whose descriptors generally most closely reflected the interview data on OH&S were 'collecting, analysing and organising information', 'communicating ideas and information', and 'solving problems'.

In the time available for carrying out this project, the development and trialing of new training ideas/strategies has not been possible. This stage is starting as this report goes to press. Further developments will be described in a supplementary report at a later date.

Issues

- role of key competencies in relation to safety at this site
- implementation of competencies in an industrially sensitive environment
- role of key competencies in relation to existing training programs
- need for contextualised key competency descriptors

Large Manufacturing Business
Site No 22
Metals

Context

This is a large company in the outer western region of Sydney that manufactures and supplies all kinds of high pressure seamless aluminium cylinders for permanent and liquefiable gases. The company has a staff of 115. Production is continuous over 24 hours for a five day week, with three shifts per day. Production work is carried out by self managing work teams. Each team comprises 10-12 people with no foreman and no hierarchical supervision. Instead there are elected team coordinators.

The company has been involved in various workplace reform measures. In 1991-1993 the company was part of the government sponsored 'Best Practice' demonstration program for workplace reform. This followed earlier adoption of quality circles, value-added management, and self managing work teams. Work skills have been analysed and incorporated into various operational, instructional and training manuals.

Tool or approach

After discussing the nature and relevance of the key competencies, it was decided that this was an opportunity to address a recurring problem in the company. There has been a feeling for some time that the work skills set out in the various operational, instructional and training manuals may be too atomistic. The worry is that issues such as safety and quality get lost in a mass of detail. Since it had been explained by the researcher that key competencies provide a good basis for viewing work more holistically, it was decided to try this out on a particular example. The example chosen is the 'Competency Guide for Diedesheim Operation'.

Reasons for selection

The Diedesheim is a relatively complex machine. It is a five-station milling machine centre used for machining gas cylinder necks. The five stations have the following purposes:

Station	Purpose
St. 1	Load/unload cylinders
St. 2	Drill hole, machine neck and faces
St. 3	Pre-machine thread diameter and recess
St. 4	Machine under cut and circlip groove
St. 5	Mill thread

The detailed competencies for operating the Diedesheim are very atomistic. The major keywords are 'check' and 'ensure'. Thus this appears to be a good test of the suggestion that when significant work activities are considered they typically feature both specific work skills and key competencies (usually more than one) as well as aspects of the particular work context.

Results

Even a brief consideration of the detailed manual 'Competency Guide for Diedesheim Operation' shows clearly that key competencies are involved in the safe and effective use of the Diedesheim Machine. In particular various descriptors for the key competencies 'collecting, analysing and organising information' and 'using technology' form the basis of operating this machine.

In the time available for carrying out this project, there has been no opportunity to take this work any further. Later developments will be described in a supplementary report in 1996.

Issues

- role of key competencies in relation to safety and quality performance
- role of key competencies in relation to existing work manuals
- role of key competencies in relation to existing training programs
- need for contextualised key competency descriptors